CULTIVATION OF MARIHUANA IN NATIONAL FORESTS

HEARING

BEFORE THE

SUBCOMMITTEE ON FORESTRY,
WATER RESOURCES, AND ENVIRONMENT

OF THE

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY UNITED STATES SENATE

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CULTIVATION OF MARIHUANA IN NATIONAL FORESTS

THURSDAY, SEPTEMBER 30, 1982

U.S. SENATE, SUBCOMMITTEE ON FORESTRY, WATER RESOURCES, AND ENVIRONMENT OF THE COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,

Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 324, Russell Senate Office Building, Hon. S. I. Hayakawa (chairman of the subcommittee) presiding.

Present: Senator Hayakawa.

STATEMENT OF HON. S. I. HAYAKAWA, A U.S. SENATOR FROM CALIFORNIA

Senator HAYAKAWA. The Subcommittee on Forestry, Water Resources, and Environment of the Senate Committee on Agriculture, Nutrition, and Forestry will now come to order.

The Subcommittee on Forestry, Water Resources, and Environment is meeting today to hear testimony on the topic of marihuana cultivation on public lands.

The growing of marihuana on national forests, national parks, and Bureau of Land Management lands is a relatively recent phenomenon. It has only been in the last 5 years that this growing has been of increasing significance.

However, over the last few years this illegal activity has transformed much of our public land from multiple to single use. Marihuana growers will not tolerate Forest Service personnel, loggers, cattlemen, or backpackers on the land where their crop is grown.

This is an intolerable situation and a growing threat to the safety of the public which desires the use of our public lands, and the Federal employees charged with managing these lands.

Congress cannot sit idly by and watch the marihuana growers gain control of these vast tracts of public lands. This is a national problem, and one which, as the Drug Enforcement Administration becomes more effective on the high seas, will only get worse.

So you understand, as the importation of foreign marihuana is stopped by the effectiveness of the DEA, then domestic growing becomes more and more attractive.

While we focus today on public lands, I think we can all recognize that much of this discussion applies equally to private lands.

I hope this hearing will produce several things. The first is a clear explanation and understanding of the present situation,

where marihuana is grown, how much is grown, and the outlook for the future.

Second, the Congress needs to be made aware of the nature and extent of related criminal activities, particularly in the area of violence. Third, we need a clear explanation of the lines of responsibility and authority for dealing with this situation on the part of Federal, State, and local law enforcement agencies. Finally, this issue needs our continued attention. I hope by holding this hearing that the matter will be placed on the agenda of the next Congress.

Attending as witnesses today are representatives of three Federal agencies, State and local law enforcement officers, and a number of public interest spokesmen. I understand the fear of retribution has kept the logging and livestock interests from appearing today. I regret this, as they were specifically invited, because we believe that their opinion would be of great value. But we are in a situation where honest businessmen, honest loggers, and cattle raisers are just being intimidated from testifying before this committee.

I recognize that some of today's witnesses will be tempted to discuss the legalization of marihuana as a solution to the problems of, and related to the cultivation of marihuana on public lands. I must caution you that this hearing is not being held to discuss legalization, nor the matters of social and health implications of the drug. We are here to discuss the specific problem of cultivation on public lands, and the effects on the public of this illegal activity. I would ask the witnesses to limit their comments to the cultivation question.

For your information, the hearing record will remain open for 2 weeks after the hearing to receive additional supporting materials that the witnesses may wish to submit. I should also point out at this time that the States of Florida and California are sending statements for the record, and I received a letter from Sheriff Ray Watkins of Newton County, Ark. for inclusion in the record of this hearing.[1]

Our first panel consists of the following: Dale Robertson, Associate Chief, Forest Service, U.S. Department of Agriculture.

Is Mr. Robertson here?

Mr. ROBERTSON. Yes.

Senator HAYAKAWA. Fine. Would you come and take a place up here. Robert Burford, Director, Bureau of Land Management, Department of the Interior; and also Frank Monastero, Assistant Administrator, Drug Enforcement, U.S. Department of Justice.

Senator HAYAKAWA. Mr. Robertson, do you have a statement? Would you like to make a brief résumé of it?

Mr. ROBERTSON. I would like to summarize my statement.[2]

Senator HAYAKAWA. Yes. All right.

STATEMENT OF DALE ROBERTSON, ASSOCIATE CHIEF, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. ROBERTSON. Thank you, Mr. Chairman. We appreciate this opportunity to appear before the committee, to present information

[1] See p. 133 for the letter from Mr. Watkins.
[2] See p. 63 for the prepared statement of Mr. Robertson.

on the cultivation of marihuana on public lands, which as you point out is a very serious problem.

The Forest Service is responsible for the management of over 190 million acres of National Forest System lands for a variety of public uses. The cultivation of marihuana is an unauthorized use of these lands and constitutes trespass.

Our primary concerns with the growing of marihuana on public lands are threefold: First, the safety of visitors to the national forests, contractors, and our own employees. Second, the adverse environmental effects associated with the uncontrolled and concentrated use of pesticides and fertilizer, and third, it conflicts with our ability to accomplish our land management objectives.

While cultivation techniques vary widely, some of the more sophisticated growers use pesticides to control insects and rodents, fertilizer to improve growth, and alarm systems to alert them when people are in the general area.

In many cases the operations are camouflaged and guarded by armed people. The level of effort in guarding the crop generally increases as the growing season progresses and the crop gains in value.

Public lands are particularly attractive to those who cultivate marihuana for several reasons. First, the lands are generally remote and removed from the scrutiny of large numbers of people. Second, in some situations, private land used for marihuana cultivation are being considered an element of the crime, and may be confiscated by the courts. Third, it is very difficult to link a marihuana patch on public lands to the identity of the grower. Some public lands are located in areas where growing conditions are excellent, such as in the Pacific coast area and the Southeastern part of the United States.

In 1981——

Senator HAYAKAWA. Wait a minute. Pacific coast area?

Mr. ROBERTSON. Yes.

Senator HAYAKAWA. In the South?

Mr. ROBERTSON. In the Southeastern part of the United States.

Senator HAYAKAWA. To where do you refer?

Mr. ROBERTSON. It would be the Southern States of Arkansas, Louisiana, Mississippi, Alabama, Florida, South Carolina, and other Coastal Plains in the South.

Senator HAYAKAWA. That is the Atlantic coastal area?

Mr. ROBERTSON. Yes. Plus the Pacific Coast States of California and southern Oregon.

Senator HAYAKAWA. OK.

Mr. ROBERTSON. In 1981 the Forest Service made an analysis of marihuana cultivation on National Forest System lands. We found marihuana was being grown on almost every national forest, and the number of operations varied from minor activity to more than 50 marihuana operations on a few national forests in California, Oregon, and the Southeastern part of the United States.

Growers were also attracted to areas which had few roads and low public visitation.

During 1981, the States, the counties, and the Forest Service received reports of over 200 incidents where users of the national forests were threatened by people believed to be associated with the

growing of marihuana. Also, there were about 150 instances where the Forest Service employees were threatened by persons suspected of protecting marihuana crops.

Some very serious confrontations have been encountered between marihuana growers and users or employees of the national forests. A couple of examples: In California this summer, a forest visitor observed a tripwire across a forest trail. The visitor stepped over the wire and reported the situation. Later investigations revealed the tripwire was set to release an armed handgrenade a few feet from the trail. Also nearby we found a marihuana garden of several hundred plants.

Another recent example in Arkansas: A Forest Service employee was threatened by an individual in camouflaged clothing and mask who was armed with a shotgun. The gunman ordered the employee to get off his mountain. Subsequent investigation led to the discovery of a large, well tended marihuana garden. This ultimately led to a cooperative effort resulting in the eradication of over 10,000 marihuana plants in that national forest, with an estimated wholesale value of over $20 million.

We have also found public resistance to intensive forest management activity, such as timber harvesting and wildlife habitat improvements in areas where marihuana is being cultivated. We suspect some of this opposition is because intensive forest management results in larger number of employees and contractors in given areas which represents a higher risk to the growers.

Mr. Chairman, I think it is important to clarify for the committee the legal situation that applies to growing marihuana on National Forest System lands. Nearly all of the national forests are in proprietorial jurisdiction. That means the Federal Government has acquired some right or title to the land, but the States and local governments continue to retain jurisdiction and authority to enforce State and local laws. The State and local law enforcement agencies have the same authority and responsibilities on National Forest System lands, as they do for other lands in their jurisdiction. Violations may be investigated by local and State law enforcement agencies, or Federal agencies which have specific authority to initiate investigations involving narcotics and other controlled substances. In the case of the Federal Government, the Drug Enforcement Administration has traditionally had this authority and the Federal Bureau of Investigation was recently granted authority to investigate controlled substance cases.

This authority does not extend to the Forest Service. The Forest Service does, however, have authority to enforce laws and regulations governing the use of National Forest System lands. Since growing marihuana is an unauthorized use of National Forest System lands, it is a violation of regulations issued by the Secretary of Agriculture, which are punishable as petty misdemeanors with a maximum of 6 months in jail and $500 fines.

The Forest Service is not charged with the responsibility of enforcing narcotics and controlled substance laws, nor do we believe it is appropriate to consider granting such authority to the Forest Service. Our employees are neither trained nor qualified to initiate independent actions aimed at the enforcement of these laws. However, our employees can and commonly do provide support for law

enforcement activities on the national forests under the leadership and direction of DEA, State, and local law enforcement authorities.

To conclude, Mr. Chairman, the Forest Service believes the cultivation of marihuana on public lands is a serious problem and demands aggressive action. We cannot ignore continued threats to the safety of visitors to the national forests, or to our employees or their families. We must also deal with the conflicts between growing marihuana and the ability of our land managers to meet their resource management objectives.

The role of the Forest Service is to cooperate with the appropriate local, State, and Federal agencies to aggressively control the growing of marihuana on National Forest System lands. Our role is to identify and report marihuana cultivation sites on national forests and assist the enforcement agencies in the eradication of marihuana plants under their leadership.

I might add that at the national level we are working very closely with DEA to coordinate our joint efforts to try to resolve this problem on public lands.

Mr. Chairman, that concludes my remarks, and I would be pleased to answer questions at the appropriate time.

Senator HAYAKAWA. Thank you, very much. I shall hear from the whole panel, and then address questions to you. I will now hear from Robert Burford, Director of the Bureau of Land Management, Department of the Interior.

Mr. BURFORD. Thank you Senator Hayakawa. I appreciate the opportunity to be here in front of this panel, and in the interests of time, since some of my testimony is repetitive of what has been given by Mr. Robertson, I will try to summarize some of the few places where we are at variance.

Senator HAYAKAWA. The entire statement will be put into the record.

Mr. BURFORD. Yes. I would ask that the entire statement be entered in the record.[1]

Senator HAYAKAWA. Yes.

STATEMENT OF ROBERT F. BURFORD, DIRECTOR, BUREAU OF LAND MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

Mr. BURFORD. As the Senator knows, the public lands, the majority of public lands that are administered by the Bureau of Land Management, are located in general in the Western States, so we do not have the problem in the Southeast or in the Eastern States that the Forest Service has.

But intermingling of lands of the Forest Service and the Bureau of Land Management with private lands does contribute a lot to the problem in the western coastal States. We're also seeing an increase in the trespass use by marihuana growers in Colorado, some in Nevada, some in Idaho. It seems to be something that's growing year by year as DEA increases its control of foreign importation.

One example that I might give is that the annual Oregon marihuana crop has been estimated to be worth over $400 million. If we just allocated that on the basis of the percentage of the lands ad-

[1] See p. 65 for the prepared statement and p. 148 for a letter to Senator Hayakawa.

ministered by the Bureau of Land Management, that would put approximately $100 million of it in that kind of a context probably produced on public lands. We have no way of knowing whether this is true or not.

Some estimates are that 40 to 60 percent of the marihuana from southwest Oregon is grown on BLM land. From April until September 3, 1982, the Oregon State and local police seized 5,767 plants on BLM lands in western Oregon. The estimated street value of this seizure was $8.6 million.

The problem is significantly worse in California where the estimated value of the annual marihuana crop exceeds $1.2 billion. In 1981, the California Department of Justice seized 151,000 plants, totaling 98 tons of marihuana from 100 plantations. They estimated that is probably 50 percent of the known crops.

I have figures in my prepared statement that show the number of plantations that have been raided in the various counties, and in the King Range. In one raid, just within the last 2 weeks, over $600,000 worth of marihuana was seized in that area and destroyed. The techniques which are being developed now by the farmers as far as their plantations are concerned are leading to smaller and smaller acreages, more widely dispersed, so that they can avoid detection. When it started out there were some plantations of fair size. But now it has become very evident that the smaller the size, the more intensive the cultivation, the less likely they are to be detected. So they have really developed what might be termed one of the most aggressive, progressive practices of agriculture possibly known to man, since they have irrigation systems which are electronically controlled, which require no one to be present to operate them. They run these by 9-volt batteries. Sometimes the water is carried in by hand and sometimes it is pumped from a spring into a tank. I do not know exactly where they got all their knowledge, but perhaps some of them were graduates of some of the most highly trained agricultural colleges in the world. It's evident that they are producing marihuana which is 15 to 16 feet high, sometimes 4 and 5 inches across the base. The intensive use of fertilizers and rodenticides are some of the problems which lead to contamination of land as far as the Bureau of Land Management is concerned.

We have the same problems that the Forest Service does in detecting the areas where these plantations exist. We are making the same efforts to cooperate with the DEA, and we have the same attitude toward the enforcement as has been expressed by the Forest Service spokesman.

We do not believe that control of this problem or enforcement of the laws prohibiting these substances should be mandated to the land management agencies. We have a certain number of specialized agents. But we have nowhere near the number of trained agents required to deal with the type of people that they would have to deal with in this area. So our main thrust will be cooperation on the national level with DEA, or the FBI, the Justice Department, and cooperation on the local level with the local sheriffs' departments, the local State patrol or State police. That is the way we think that it can be best controlled.

We do not wish to try to set up a police force within a land management agency, because we do not think that that is our primary function.

Thank you. I will attempt to answer any questions.

Senator HAYAKAWA. Thank you, Mr. Burford. May we now hear from Frank Monastero, Assistant Administrator, Drug Enforcement Administration, that is, the DEA, the U.S. Department of Justice.

STATEMENT OF FRANK MONASTERO, ASSISTANT ADMINISTRATOR, DRUG ENFORCEMENT ADMINISTRATION, U.S. DEPARTMENT OF JUSTICE

Mr. MONASTERO. Thank you, Mr. Chairman. I am pleased to represent the Drug Enforcement Administration and its efforts to counter the illicit cultivation and trafficking of marihuana.

Our estimate of illicit marihuana available to the United States for consumption is between 10,200 and 15,000 metric tons for 1980. The vast majority of that, about 93 percent, is estimated to have originated from foreign sources. These sources were Colombia, with about 75 percent, Jamaica, with about 10, and Mexico, about 8 percent. The illicit domestic production for 1980 was estimated to account for about 7 percent, or between 700 and 1,000 metric tons of the total domestic supply.

The serious health hazards associated with the use of marihuana have continually been documented. We also know that marihuana trafficking is a multibillion dollar business. The volume of untaxed dollars available to the criminal element in our society has affected the economic and social fiber of some communities.

This administration is committed to aggressively attacking the marihuana traffic. This Congress has demonstrated its concern by passing significant legislation. Public Law 97-113 removed restrictions to providing foreign assistance funds to countries for use in herbicidal eradication programs aimed at marihuana cultivation. And we very much appreciate that.

Public Law 97-86 permits the assistance of the military to civilian law enforcement authorities. This has proven to be particularly of importance in our efforts to attack the large scale smuggling of marihuana to the United States. And I would like to mention, Mr. Chairman, that we owe a great deal of credit to the U.S. Coast Guard and Customs Service.

We encourage the Congress to continue its support in the legislative process by its approval of Senate bill 2572, a bill containing marked improvements to our bail, sentencing, and forfeiture statutes. With the continued pressure on foreign sources of marihuana by the Vice President's South Florida Task Force, the temptation to the trafficker to seek other sources of supply has led especially to domestic cultivation, as you pointed out.

At this time, the United States is on the leading edge of a horticultural revolution, as it applies to illicit marihuana cultivation. This manifestation is both in terms of the quality and quantity of marihuana produced domestically. From the standpoint of quality, the cultivation process, which has produced an extremely high

grade of marihuana, known as sinsemilla, has brought the United States very much into the commercial market.

Through the process that produces sinsemilla, a 12- to 16-foot plant can yield between 3 to 5 pounds of extremely high-grade product. By high grade, I am referring to the THC or delta-9-tetrahydrocannabinol content, which is in excess of 6 percent, as compared, for example, to the best Colombian marihuana, which will seldom reach 3 percent.

Some recent assays have confirmed the THC content in excess of 11 percent for sinsemilla marihuana. The quality of the marihuana is not only significant from a commercial merchandising standpoint—good sinsemilla can command over $1,000 a pound on the wholesale market—but it is alsc significant in the fact that in virtually all of the scientific studies conducted, the health hazards or effects on the body of marihuana abuse are reported as being dose related. In other words, the higher the content, the more dramatic the effects on the body.

In terms of quantity, surveys conducted since the 1980 estimate indicate that increased domestic cultivation has occurred. We believe that although we have not yet been inundated by this high-grade product, the potential for expanded cultivation is very great.

To meet this threat, DEA has entered into cooperative eradication and suppression programs with a number of States. The commercial cultivation of marihuana in the United States first commenced on a large scale in California and Hawaii. Three years ago, cooperative programs were initiated in these States, and continue at this time. In 1981, as shown by the map behind you, cooperative programs were generated in five States besides California and Hawaii, and those were Florida, Georgia, Missouri, Kentucky, and Oregon.

In 1982, the program has expanded to include a total of 25 States. While some States are more significant than others in the amount of cultivation discovered thus far, all of them are experiencing some commercial growth. DEA's strategy has been to provide support on a varying scale depending on the perceived volume of cultivation, but in every case, sufficient to support an aggressive search program in each State.

DEA's role in this cooperative venture has been to encourage State efforts and to contribute within our resource limitations training, equipment, funding, investigative, and aircraft resources to support the efforts of the State and local enforcement agencies. Marihuana is generally cultivated in rural, often economically depressed areas. We must rely upon the State and local agencies to provide the manpower necessary to actually find illicit marihuana fields and to do the work necessary to destroy them.

In 1982, DEA conducted four schools which trained over 100 State and local law enforcement officers in aerial observer techniques, qualifying them to find marihuana fields. The schools also provided instruction in how to accomplish the necessary legal activities, to obtain search warrants in their States, to conduct raids to destroy the marihuana crop, and to arrest and prosecute those individuals identified with it. In fiscal year 1982, $1 million in DEA's budget has been made available to the States to support this expanded effort.

The greatest percentage of domestic marihuana cultivation takes place on private lands. However, as we are seeing this year, there is an increasing tendency to utilize our national forests and other public lands for this purpose. Armed guards, booby traps, and explosive devices to protect the marihuana fields have surfaced along with this occurrence. These actions not only deny access to hikers and campers to portions of our common lands, but also pose a very real potential threat to the public safety as well.

Dialogs conducted this year between the DEA, the U.S. Forest Service, the Bureau of Land Management, both in Washington and at our field offices to address this problem have resulted in a cooperative and coordinated approach at the Federal level. This consists of systematic efforts to find and target those areas where significant cultivation exists, and to apply the needed resources for its destruction and the subsequent arrest of violators and seizure of assets. As with DEA, the Forest Service and the Bureau of Land Management rely primarily on State and local enforcement agencies for law enforcement action, while we collectively work to develop better detection and reporting techniques, provide training, coordinate eradication efforts and provide funds to defray costs.

Because of the high density of cultivation over a large area of forbidding mountain terrain, in some cases local capabilities remain inadequate. To overcome this shortfall, DEA is exploring with State and local officials the possibility of conducting hard hitting, high impact eradication operations during the height of the growing season. These operations are envisioned to combine an aggressive search effort with highly mobile eradication teams using alternative manpower resources to relieve the often understaffed county departments of the labor intensive aspects of the destruction process. The mobility can best be provided by troop lift helicopters. The military establishment is the principal source of these types of helicopters, and obtaining the loan of the helicopters from the Department of Defense is an option we have.

Another option is through the Governor's authority in each State to mobilize elements of the National Guard to support this effort. This has been done in the States of Hawaii and Arkansas.

DEA is committed to its partnership with Federal agencies and with state and local law enforcement communities. We believe we have a program that can succeed in substantially reducing domestic cultivation.

We appreciate the support and the concern of the Congress as is evidenced by this hearing.

Thank you, sir.

Senator HAYAKAWA. Thank you very much. I shall have now then a few questions for the panelists.

I would like to ask this question of each of the witnesses, Mr. Robertson, Mr. Burford, and Mr. Monastero. What is your best guess as to the wholesale value of marihuana grown on national forest and Bureau of Land Management land in 1982?

Mr. ROBERTSON. In the case of the Forest Service, we do not have the kind of information that would permit us to give an estimate of total value. I can tell you that in 1981, our records indicate that by working with the States and the local law enforcement agencies, we seized and destroyed about $700 million worth of marihuana on

the national forests. Now, what percent of that is of the total, we do not have a good estimate.

Senator HAYAKAWA. Mr. Burford?

Mr. BURFORD. We don't have much of any kind of an estimate or even a guess as to the wholesale value. Looking at the two States that are most significant, in California, with a total marihuana value of $1.2 billion, we estimate that approximately 50 percent of it is grown on BLM and Forest Service lands, which would be $600 million. Oregon has an estimate of $400 million in wholesale value of the total crop; perhaps 40 percent of it on BLM lands, which would be an additional $160 million there. Those are the most significant States, but we really don't have figures to be able to tell.

Senator HAYAKAWA. It is pretty much guesswork, isn't it?

Mr. BURFORD. Yes, sir.

Senator HAYAKAWA. And the guesses have to do with only what you've discovered, and not with——

Mr. BURFORD. People don't tend to report to us exactly what the value of their crop is.

Senator HAYAKAWA. Yes. Do you have an estimate?

Mr. MONASTERO. I'm afraid not, Mr. Chairman. I think I would have to agree that it is a very undefined situation. The overall projection for the total crop available domestically is somewhere around $20 billion. And I am sure that a significant portion of that is domestic. It is hard to get more definitive than that.

Senator HAYAKAWA. Yes. Do the Bureau of Land Management, the Forest Service and so on, have a guess as to how much of the marihuana growing area you are able to locate? Is it 5 percent of the total, 20 percent of the total?

Mr. ROBERTSON. We don't have that information. I would estimate not over 25 or 30 percent.

Senator HAYAKAWA. At best. And what is the commitment of your agency in terms of dollars and manpower invested in view of the cultivation on public lands?

Mr. ROBERTSON. In terms of the Forest Service, we do have a cooperative law enforcement program that is in our budget. And this is money that we provide to local law enforcement agencies to deal with crimes and problems associated with the national forests.

We estimate that, for 1982, about $500,000 of this program went to the local law enforcement agencies and was related to marihuana control. Our fiscal year 1983 budget that the President proposed contains a 40-percent increase in this program, and much of this increase will be directed to the areas where we are having problems with marihuana.

That's the co-op law enforcement funds that go to the local law enforcement agencies. As far as the detecting and reporting marihuana sites on National Forest System lands, this is done as a part of our other jobs, as our people are out in the field and run on to the plantations.

Our estimate in 1982, in terms of assistance to local law enforcement agencies is that about $800,000 was spent working with them and helping them to seize and destroy plantations that have been discovered in the national forests.

Senator HAYAKAWA. One of you said very specifically you don't want your Forest Service officers, employees, to become law en-

forcement people. That's not what they're trained for. You don't want to train them for that. If there is law enforcement work to be done, that should be turned over to local law enforcement agencies.

Mr. ROBERTSON. Yes, sir. Part of our cooperative law enforcement program is designed to help strengthen the local law enforcement agencies and provide additional resources for them.

Senator HAYAKAWA. All right. This leads to another question. Is there anything that you might call softness on the part of local law enforcement agencies because of the local economic dependence on the profits of the crop in those communities?

Mr. ROBERTSON. That's a tough question to answer. You have some local law enforcement agencies in the next panel which may wish to address this question. Marihuana does not become large enough that you can have much of a chance of detecting it until about mid-July, or the end of July. Then it is harvested near the end of September. So, you are looking at about 2, 2½ months where additional personnel are needed to work on the marihuana problem. This, I think, is a problem with many of the local law enforcement agencies. How they gear up, with the expertise and the experience and the help they need for such a short period of time.

I would say that if we can identify a problem, it is in some cases the lack of enough resources and capabilities of the local law enforcement agencies to deal with this very big problem in a short period of time.

Senator HAYAKAWA. I would invite all three of you to answer any of these questions that come along. But in addition to the heightened value of marihuana plants at harvest time, there is the danger to picnickers, hunters, fishermen, loggers, and other people who are not involved at all, who are using public lands as they are rightfully intended to be used. They are going into these places and running into booby traps, and running into armed guards saying get off this property, and they make these threats at the point of a gun, and so on. So this can happen any time of the year, can it not? And does this not call upon local law enforcement agencies to protect the safety and freedom of movement of the average citizen, the hunter, fisherman, forester, logger, and picnicker?

Mr. ROBERTSON. Yes.

Senator HAYAKAWA. You want to provide access to these lands to those who want to use them for these purposes?

Mr. ROBERTSON. Yes; that's very true. But in terms of the problems with marihuana growers, it is concentrated during those summer months.

Mr. BURFORD. Especially close to harvest time. Because the value of the crop is there all at once, and they are very protective at that time. There would be very little problem in the winter time. They would just lie low or go south for the winter someplace, and figure on coming back to their own State in the spring.

Senator HAYAKAWA. Come to San Francisco.

Mr. BURFORD. Come to San Francisco. You said that, Senator.

Mr. MONASTERO. I think that is when the Forest Service and the Bureau of Land Management has its greatest problems in other areas as well. So, that is true of local and State law enforcement, too. So that it makes it even more difficult to apply resources. We have not seen generally any reluctance on the part of State and

local authorities to help out with the problems. But they do not have the resources to address it. I think that is principally what the problem is.

Senator HAYAKAWA. So, whatever supplementary resources you can supply these local agencies, it would be a help to them. And you do supply some supplementary funds.

Mr. BURFORD. Yes; we, along with the Forest Service, have cooperative agreements with the local sheriffs departments, and work in conjunction with them, where there are public lands that they help patrol, because they have the problem of law enforcement on them.

That is also one of the purposes of the payment in lieu of taxes program, which is to take care of some of the law enforcement problems on public lands, because it is recognized that we do not enforce the State laws out there, but that there is a vast area that does need protection.

Senator HAYAKAWA. The Bureau of Land Management would have special responsibility as far as the protection of public lands for the public, sir, would it not?

Mr. BURFORD. Well, we are very similar. We are a multiple use agency, just like the Forest Service. And I do not think that our mandate is essentially any different from the Forest Service's mandate, as far as use of the public land is concerned. We do have more acres, and a lot of those acres are widely dispersed. Some of them are perhaps more remote, but not necessarily so. And our problems are concentrated to the west of the Mississippi, while the Forest Service has lands all over the United States.

Senator HAYAKAWA. When you make accessible dollars and manpower for handling this problem, you stated that it is very specifically during the harvest period that this manpower and money is needed most, not so much during the rest of the year.

Mr. BURFORD. That is when it is needed most, but we do not specify when we enter into a cooperative agreement with a local law enforcement agency as to exactly where they are to put that money. It is to take care of general law enforcement over the entire year, because of the problems caused on public lands. A lot of them will concentrate it at that particular time if they see that need, and that need has been growing over the last 3 or 4 years because of the aggressive enforcement of DEA.

A large part of the problem that Mr. Robertson and I have we can attribute to too much activity on the part of the Drug Enforcement Agency. DEA will not let them ship it in, so they have to grow it here.

Mr. MONASTERO. Our situation is just a little bit different, Mr. Chairman. We will be gearing up now for the next growing season. The actual harvesting, or if you will, destruction of marihuana is very labor intensive. We begin the training and coordination with other agencies fairly early so that we will be ready for the growing season, which in most areas is the summer months. In Hawaii it is year round, but most other places it is just the summer.

Senator HAYAKAWA. When you talk about law enforcement agencies, do you call upon city, municipal, State? What police or law enforcement agencies do you call upon when you have these problems?

Mr. ROBERTSON. Practically all of our work is with the county sheriffs.

Senator HAYAKAWA. County?

Mr. BURFORD. The same is true for the Bureau of Land Management. Most of our agreements are with county law enforcement, because they cover public lands as well as the private lands within the county boundaries.

Mr. MONASTERO. That is generally true with us. We also work with State agencies which have an overall responsibility. We try to bring them in as well.

Senator HAYAKAWA. Mr. Monastero, getting back to the question of how much marihuana is grown on public lands, I am surprised that the DEA does not have some credible estimates. Would not the first step in your domestic marihuana program outlined on the chart be determining how large the problem is?

Mr. MONASTERO. Yes; that is correct.

Senator HAYAKAWA. How can you combat a problem effectively if you do not know how big the problem is?

Mr. MONASTERO. I think that is a very fair question, Mr. Chairman. We know of these 25 States which are involved with the program this year. And as these gentlemen have indicated, just in the Forest Service alone, they have 191 million acres of forest land. In order to precisely determine what the situation was, we would have to overfly every bit of that land and detect the marihuana that was growing there. We can make estimates, but they are very, very soft estimates of what the situation is. And we are addressing it where we know the highest concentrations have been before.

So, we do not know the total picture as yet. But we know we are addressing it where there are high concentrations of cultivation.

Senator HAYAKAWA. Let me ask you, Mr. Monastero, some questions about your agency specifically. What is the number of apprehensions and convictions of charges of marihuana cultivation on public lands over the past few years?

Mr. MONASTERO. The Drug Enforcement Administration, itself, has very few comparatively. This is generally because we are working with the State and local agencies and these cases are brought into State courts. So that the State authorities are making the actual arrests and processing for prosecution.

Senator HAYAKAWA. How much of your budget, roughly, goes to the eradication domestic marihuana as opposed to the dollars spent for overseas, imported marihuana?

Mr. MONASTERO. The actual operating funds that go to the program are just under $1 million. In other words, that which pays for fuel and labor to do the eradication and so forth. That would not include the salaries of our own employees who are working on the program.

Senator HAYAKAWA. What percent of marihuana consumption in this country is grown domestically?

Mr. MONASTERO. We estimate about 7 percent of the overall availability is grown domestically.

Senator HAYAKAWA. So, 93 percent comes from outside the country?

Mr. MONASTERO. Yes; that is correct.

Senator HAYAKAWA. That is the biggest part of your job, then?

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Mr. MONASTERO. Yes; that is correct. However, we feel that will, I think as you pointed out correctly in your statement, begin to shift as we are effective in our interdiction efforts.

Senator HAYAKAWA. I am going to ask a far out question. What will be the effect upon your agency and your work and possibly on the country as a whole if, say, marihuana were legalized and taxed the way liquor and tobacco are?

Mr. MONASTERO. Well, I don't think that anybody has ever made the statement that the tax derived from liquor is commensurate with the damage that is done. The number of traffic fatalities, for instance, attributable to alcohol. The same thing is true with the number of families that are impacted and the treatment that has to be applied. I do not think there is anyone who would claim that the tax derived would be able to offset the amount of money that the government, both State, local, and Federal, and the private sector would have to pay to support such a situation.

So, I do not think that there would be a commensurate offset by a tax.

Senator HAYAKAWA. Suppose I take the libertarian view, and say why not let everybody go to hell in his own way, be it booze, marihuana, or whatever he wants to use?

Mr. MONASTERO. I am sure my point of view would be more conservative and unacceptable to them.

Senator HAYAKAWA. I am not a complete libertarian myself. I was just posing a hypothetical question.

Mr. MONASTERO. If it were applied to marihuana, I guess it would be applied across the board to all drugs. I think the disruption to our society, the health hazards are just too extreme for our society to consider such a situation. And I think we have had enough examples in other societies around the world to feel that that is not an acceptable way to go.

I think there are enough health hazards and disruptions just with tobacco and alcohol, which are already legalized. I think to put on top of that legalization of the many drugs that are involved in our business just would be an unacceptable thing for our society to do.

Senator HAYAKAWA. When you call attention to the number of deaths caused to nondrunken drivers by drunken drivers that hit them, that is something to be considered.

Mr. MONASTERO. Yes; and I do not think anybody has ever defined precisely the number of those accidents, just in that one area, which are a result of drug abuse.

Senator HAYAKAWA. I was not talking necessarily about just being drunk on alcohol.

Mr. MONASTERO. That is correct.

Senator HAYAKAWA. They are high on other drugs.

Mr. MONASTERO. That is correct. And we only talk about the number of people who die. The number of people who are injured, some of them permanently, is much, much larger.

So, I really think that is an unacceptable solution from our standpoint.

Mr. BURFORD. Senator, I think that viewpoint has already been expressed by Alaska in legalizing the production of marihuana for

one's own individual use. I do not know how it is turning out, but I seem to recall that that law was passed up there.

Senator HAYAKAWA. Alaska has already gone in that direction, has it not?

Mr. BURFORD. I think so. And I do not know, I have no idea of what the results have been. If I remember the law correctly, it was to allow production of marihuana for one's own personal consumption. Not for sale.

Senator HAYAKAWA. Not for sale.

Mr. BURFORD. Now, what the results have been, I do not know.

Senator HAYAKAWA. Well, let me ask the same question of you two gentlemen about legalization.

Mr. ROBERTSON. You are getting outside of my area of expertise on that.

Senator HAYAKAWA. Well, it is outside the area of expertise of all of us. Because none of us have lived in that kind of society.

Mr. ROBERTSON. Well, I would tend to go along with Mr. Monastero on that issue.

Mr. BURFORD. I do not think I am libertarian enough to turn everything loose.

Senator HAYAKAWA. We could put a high, high tax on it and get a lot of revenue. Maybe even balance the budget.

Mr. MONASTERO. We might be so stoned we would not have a budget, Mr. Chairman.

Mr. BURFORD. I do not know. Maybe we could try it out. I got a call from a State director in California who said that he, in conjunction with some sheriff's deputies and some DEA people, had destroyed in a raid about 900,000 dollars' worth of marihuana, and I told him I didn't want him to complain to me about his budget after this, because he threw away most of the assets that he could have run the entire State on.

But I am not sure that is a viable solution.

Senator HAYAKAWA. Well, gentlemen, I will just ask one more question of all of you. As far as your own agencies are concerned, what would you most like to have to strengthen your efforts. You believe in the efforts of your agencies, do you not?

Mr. ROBERTSON. Yes, sir.

Mr. BURFORD. Yes, sir.

Mr. MONASTERO. Yes, sir.

Senator HAYAKAWA. What do you most need, not in the way of money, but in the way of legislation to strengthen the activities of your agency?

Mr. ROBERTSON. We believe our legislative authorities are adequate to deal with the problem and as I said before, if there was anything that we would like to see, it would be the strengthening of and more resources made available to the local law enforcement agencies in those areas where we are having particular problems.

Senator HAYAKAWA. Thank you, Mr. Robertson. Mr. Burford.

Mr. BURFORD. We do not think that we need any more legislation. We have sufficient legislation. As I stated in the beginning, the Bureau of Land Management does not want to become an investigative law enforcement branch of the Government. We are land managers, and that is our role as we see it, and we believe that the local people and the DEA are the ones that should be

given the enforcement provisions as far as this problem is concerned.

We are glad to bring it to their attention and help them locate the trouble spots, but we think the enforcement should lie with them.

Senator HAYAKAWA. Thank you, very much, Mr. Burford. Mr. Monastero.

Mr. MONASTERO. I think, Mr. Chairman, as I indicated, we would like to see passage of the bail and sentencing reform, which is a jointly sponsored measure, and we would also be helped greatly by improved legislation to enable us to seize this land where marihuana is grown.

Senator HAYAKAWA. Would you put that in the form of a letter to me?

Mr. MONASTERO. I would be happy, Mr. Chairman.

Senator HAYAKAWA. I would be very grateful if you would.

I want to thank all three of you gentlemen very much.

Mr. ROBERTSON. Thank you, sir.

Mr. BURFORD. Thank you, sir.

Mr. MONASTERO. Thank you, sir.

[The following letter was subsequently received by the committee:]

U.S. DEPARTMENT OF JUSTICE,
DRUG ENFORCEMENT ADMINISTRATION,
Washington, D.C., November 1, 1982.

Hon. S. I. HAYAKAWA,
U.S. Senate,
Washington, D.C.

DEAR SENATOR HAYAKAWA: I would like to thank you for inviting DEA to appear at your hearing on September 30, 1982, and focusing attention on the problem of cultivation of marihuana on public lands.

I am enclosing responses to the follow-up questions requested by your letter of October 14, 1982. I would like to see that bail and sentencing reform measures as well as provisions to seize and forfeit lands where marihuana is grown are enacted into law as soon as possible. These measures will be extremely helpful in dealing with the drug trafficking problem.

I thank you, once again, for your interest and efforts in combating the drug problem in this country.

Sincerely,

FRANCIS M. MULLEN, Jr.,
Acting Administrator.

Enclosure.

Question 1. How much of your budget goes to domestic marihuana eradication as opposed to overseas marihuana eradication?

Response. In Fiscal Year 1982, DEA directly allocated approximately one million dollars to support marihuana eradication activities in the United States. DEA manpower resources committed include two full-time program coordinators at DEA headquarters and full or part-time coordinators in 25 states, plus appropriate supervision, clerical support, etc.

Although DEA may provide technical guidance, intelligence, etc. to support overseas marihuana eradication programs, it provides no funds. Funding support is mandated to and budgeted by the Department of State.

Question 2. Looking at the full range of illicit drugs, where does your agency prioritize marihuana in terms of resources committed for control?

Response. Previous Federal strategies which established drug priorities for resource commitment within the Federal government placed cannabis at the bottom of the priority list. In DEA this translated to a resource commitment of some 10 percent.

The Federal strategy recently published by the current administration allows greater flexibility in the determination of drug priorities by recognizing that the

drug problem, hence the priorities will differ from one region to another in our country and also by weighing drug priorities not only based upon documented destructive effects of use on the body but also, upon the debilitating effect of widespread use upon our society as a whole. Thus marihuana accrues greater status as a drug which does not compete with heroin based solely upon emperical data but also, in terms of its effect upon a significant cross/section of our society, particularly our youth.

DEA's field offices are currently assessing the situation to generate work plans consistent with priorities in their areas. Indications to date are that marihuana suppression and investigations will receive a higher priority in many of them.

Question 3. Are you aware of any cases of corruption within your agency or any other law enforcement agency involved with the eradication of marihuana?

Response. There have been no cases of corruption on the part of DEA employees regarding domestic marihuana activities.

DEA does not investigate charges of corruption by law enforcement personnel of other agencies and can not respond in this regard. However, DEA is not aware of any cases where such corruption has compromised its eradication support activities.

Question 4. What can be done to increase the coordination and communication between Federal, state and local law enforcement agencies in the eradication of domestic marihuana cultivation?

Response. During Fiscal Year 1982, DEA expanded its support for eradication activities from seven to twenty-five states, designating one or more Program Coordinators in each participating state. During the same period, there also developed increased coordination and cooperation between DEA and other interested Federal Agencies (i.e., U.S. Forest Service and Bureau of Land Management) and between these agencies and state/local agencies. The coordination and spirit of cooperation thus engendered is further enhanced through joint Federal/state field eradication operations and discussions of the domestic marihuana cultivation problem at various fora, (e.g., State Drug Enforcement Alliance Conferences).

In general, the magnitude of the problem and the increased awareness concerning it have resulted in the establishment of a high degree of communication, coordination, and cooperation among the Federal and state/local agencies involved. This is expected to continue and increase as the respective Federal/state programs continue.

Question 5. What do you project to be the level of financial commitment on the part of the DEA to control domestic cultivation over the next five years?

Response. In Fiscal Year 1982 DEA committed approximately one million dollars excluding salaries and other fixed costs to domestic marihuana eradication in 25 states. In Fiscal Year 1983 DEA has asked for $1.5 million. We anticipate the inclusion of another 10 states in the program this fiscal year. It is believed that as the program builds, the sum of between. $1.5 and $2 million per year should be adequate. If an effective program can be pursued over the next few years and particularly if some good sentencing of convicted violators in the courts can be realized the incidence of domestic cultivation should decline whereupon a modestly funded maintenance program should suffice.

Question 6. Do you feel that given the tremendous increase in domestic cultivation that we will ever be able to get ahead of the growers? And, if so, what will we have to do in the future that we are not now doing?

Response. While it is perhaps impossible to eliminate entirely the domestic cultivation of marihuana, DEA believes that it is possible to curtail it to where it is not a significant drug source. A national program leading to this should consist of the following elements:

1. A strong policy statement from the President and/or high government officials specifically condemning domestic commercial marihuana cultivation and pledging a determined Federal effort against it.

2. A public awareness campaign to inform/convince the public, public officials, prosecutors, judges, etc. that domestic commerical cultivation of marihuana is harmful to our society and should not be condoned.

3. An aggressive law enforcement program to eradicate the marihuana and prosecute the cultivators/traffickers. State/local agencies should assume the primary eradication role with strong and consistent Federal resource support to include: training, funding, and operational support (e.g., DEA aircraft for spotting, National Guard helicopters for spotting and troop lift, etc). The eradication activity should be combined with a determined effort to prosecute and incarcerate cultivators/traffickers with forfeiture of their assets, including land, gained by or used in their illegal enterprise.

[Subsequent to the hearing Senator Hayakawa sent written questions to the Department, the questions and answers follow:]

U.S. DEPARTMENT OF AGRICULTURE,
FOREST SERVICE,
Washington, D.C., October 27, 1982.

Hon. S. I. HAYAKAWA,
Chairman, Subcommittee on Forestry, Water Resources, and Environment, Committee on Agriculture, Nutrition and Forestry, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: We are writing in response to the five questions you raised in your letter of October 14, 1982.

Question 1. Is there a nationwide policy for dealing with marihuana cultivation on Forest Service lands? And if so, how is it communicated to your employees?

Answer. A nationwide policy establishing the role of Forest Service employees exists. Briefly, this role consists of reporting the presence of marihuana on the National Forests to appropriate law enforcement agencies and assisting those responsible agencies in their eradication efforts. This role has been communicated to field offices through official correspondence.

Question 2. What action has the Forest Service taken in response to the specific GAO findings and recommendations of April 1982 on this matter?

Answer. The Forest Service has developed more effective cooperative efforts with the Drug Enforcement Administration and has developed and communicated role statements to guide field units.

Question 3. Are you aware of any cases of corruption within the ranks of your employees or any other Federal employees, in relation to the eradication of marihuana on Forest Service lands?

Answer. We are not aware of any cases of corruption related to the Federal role in eradication of marihuana on National Forest System lands. During 1982, seven Forest Service employees were arrested for personal involvement in marihuana cultivation. None of these employees were law enforcement officers or officials with responsibility in the marihuana eradication efforts. In all cases where employees have been found guilty of marihuana violations, their employment has been terminated.

Question 4. What might be done to improve the coordination and communication between Federal, State, and local officials with a responsibility to deal with the marihuana cultivation problem?

Answer. Implementation of the President's campaign against drug abuse will provide a comprehensive set of specific actions to improve the coordination and communication between Federal, State, and local officials.

Question 5. How do you expect the commitment of your agency, in terms of dollars and personnel, dealing with the marihuana problem to evolve over the next five years?

Answer. We believe that full implementation of the agreements reached during 1982 and implementation of the strategies in the President's campaign against drug abuse will substantially reduce the use of Federal lands for marihuana cultivation by 1987. Therefore, we believe the requirements for investments in dollars and personnel to address this problem will gradually decrease between 1983 and 1987. Please contact us if we can be of further assistance.

Sincerely,

J. LAMER BEASLEY
(R. Max Peterson, Chief).

Senator HAYAKAWA. Shall we take a 5-minute recess, after which I want to call the next panel including Tom Dial, of the Mississippi Bureau of Narcotics, Tom Jondahl, Sheriff of Mendocino County, Calif. and Tom Crofoot of Mendocino County, Calif.

(Whereupon, a 5-minute recess was taken.)

Senator HAYAKAWA. Mr. Dial, Mr. Jondahl, Mr. Crofoot, please sit down. Let us proceed with the second panel.

You are Tom Dial, director of the Mississippi Bureau of Narcotics?

Mr. DIAL. Yes, sir. That is correct.

Senator HAYAKAWA. We shall welcome your testimony at this point.

STATEMENT OF TOM DIAL, DIRECTOR, MISSISSIPPI BUREAU OF NARCOTICS

Mr. DIAL. Thank you. Marihuana has become the most significant drug problem in Mississippi. Approximately 55 percent of the Mississippi Bureau of Narcotics total assets are employed in marihuana cases, and this appears to be rising.

Marihuana has long been readily available, and even though there have been massive Federal efforts to reduce the importation of this drug, it is still readily available.

It has become apparent that any interruption of foreign marihuana has been compensated for by domestic production. For many years we have seen domestic marihuana production in our State, but this has changed from an occasional case to a matter of routine during the growing season.

In our State, we have seen dramatic seizure increases in the last 2 years. In 1981, we saw an increase in plant seizure of approximately 1,700 percent. So far in 1982 we have already seized more plants than in all of 1981, and the seizures continue.

We estimate that over 25 percent of the available marihuana is domestic, and this figure is on the rise. And we substantiate that from the number of cases that we have encountered.

In our State we have not seen multiacre marihuana plantations, but it has become common to make seizures involving thousands of plants. Even though most of our seizures involve smaller numbers of plants, it must be understood that 300 mature, 15-foot plants can produce a significant quantity of marihuana.

This method of production is often used to reduce the chance of detection, and it offsets the likelihood of losing the entire crop in the event of a raid. We believe that this problem will continue and that domestic marihuana will soon comprise the bulk of all available marihuana. The reasons for this should be obvious. There is less risk involved, and less capital outlay and greater profit.

A major problem with this increase in popularity of domestic production lies in the ease with which a person can become a major supplier. With the increase in producing marihuana comes a natural increase in supply which will lead to a reduction in cost and the cycle continues.

In Mississippi we have taken several initiatives to reduce these production efforts. We have made public awareness a priority. We have conducted training in this area to county and municipal officers. We have tried to focus our efforts by seeking assistance from farmers, conservation officers and others who are most likely to be where marihuana is grown.

In addition to these efforts, we initiated an aerial detection program which has had limited success. Its limited success has been due to several factors. No. 1, limited spotter experience, limited aircraft availability from other agencies, shortage of funds for aircraft and pilot rental.

The question of whose problem is domestic production of marihuana must be asked. Is it only a national problem if the crime occurs on public land? Is all domestic marihuana grown in Mississippi, Tennessee, Florida, and Alabama consumed in those States? I think not.

The Federal Government has to recognize that it is a national problem and it should dedicate all available resources to the solution.

Two years ago we began to look at the possibility of using some form of high technology photographic equipment to detect growing marihuana. We believe if aerial infrared photos can be used to identify various crops and crop diseases, then the technology should exist to allow us to detect growing marihuana. We think if this capability exists then strong consideration should be given to utilizing this tool to aid in our eradication efforts.

DEA has made positive efforts in attempting to assist the State by providing aerial, spotter training, and limited funds for aircraft rental. This is not enough. The Federal Government should examine its assets, no matter if they exist in the military, NASA, the Department of Agriculture, or in any other department.

We believe that if the technology exists, then it should be made available to the States in this effort to eradicate marihuana.

Senator HAYAKAWA. Thank you, very much.

We will now hear from Mr. Jondahl, Sheriff of Mendocino County, Calif.

STATEMENT OF THOMAS W. JONDAHL, SHERIFF, MENDOCINO COUNTY, CALIF.

Mr. JONDAHL. Thank you. I am here not only as sheriff of Mendocino County, but representing the California State Sheriff's Association.

Senator HAYAKAWA. Good.

Mr. JONDAHL. I think to start out we just go back and look at the development of commercial cultivation of marihuana in the western United States. I use the term commercial cultivation as we are now in a new and different ball game.

In the past, marihuana growing for smoking in this country was basically for private use, and not of a very high quality, high quality, that is, in terms of strength.

The enforcement of any laws against growing of marihuana was left to the various State and local enforcement agencies. The Federal agencies at that time were not interested in marihuana in this country, but supported strong eradication efforts in other supplier countries.

This created a perfect situation for the involvement of what amounts to an illegal domestic marihuana industry that is second to none in its potency and illicit value. Marihuana growers moved into certain rural areas of the country, and unfortunately Mendocino County happened to be one of those areas.

The first thing we knew at the local level was that large scale cultivation of marihuana was taking place. This cultivation was in commercial quantities, and being grown in both our public and private lands.

Not only was marihuana being grown in huge quantities, but through a selective growing process, authorities found an extremely potent marihuana on the market. It had long been felt that marihuana grown in North America had a low THC content, and was of a lower value. It was found that a growing process wherein

sinsemilla marihuana was developed had become the norm in these areas.

Sinsemilla was extremely powerful and sold for up to $2,000 a pound. This ability to make huge amounts of money with a limited risk is what brought us the problem we have today.

The rural lands with limited access, such as that found in so much of our public land, was ideal for commercial sinsemilla cultivation. Throughout California we are finding increasing numbers of these growers that are taking steps, including violence, to protect their crops and potential profit from not only law enforcement and crop thieves, but also from any private citizen that might wander near their crops.

These acts of violence and threats of violence run from verbal threats to actual assaults with firearms. One of the greatest threats to the public is the battle going on between the growers and those that are trying to steal their crops. We have many incidents of robbery by firearms, actual gunfights, and shootings between these groups. It is unusual to go on a sinsemilla eradication and not find a large number of guns at the location. Not knowing who the actual thief might be, any citizen in the area is suspect by growers.

All the rural counties are finding marihuana growing on public lands within their boundaries. We have found all types of alarm systems, boobytraps in these marihuana gardens. The boobytraps encountered that I know of include a handgrenade rigged to a tripwire, beartraps, camouflaged pits, firearms rigged with tripwires, blasting caps rigged to explode, and other less serious incidents.

If you think I am exaggerating as to the extent of this problem, let me give you a few statistics. These figures encompass both public and private lands, but the overall problem is the same to all of the people of the country.

In Mendocino County we have had an accelerated sinsemilla eradication program for the past 4 years. We have been working with both Federal and State agencies in this program. During our program's first 3 years, we confiscated and destroyed over 100,000 pounds of high grade sinsemilla marihuana. At the going rate of $2,000 a pound, this is a value of over $200 million that didn't reach the street. I would like to say that we got all of the marihuana in our county, but we didn't.

My point in talking pounds and dollars is to emphasize the obvious. The obvious being that, with the threat of having someone take that kind of money from you, if you are a grower, you would use whatever force necessary, to keep it and get away with it.

I am here today to speak for all the sheriffs in California. We feel that this problem is not a local one, and it certainly is beyond both our financial and physical capabilities to successfully combat. We are willing to take the lead in sinsemilla eradication efforts on both public and private lands. We also feel that this is a nationwide problem, and we must, and I emphasize must, have assistance consisting of financial, technological, and manpower if we are to be successful. All the sheriffs I have talked to are limited by the same problem in their ability to combat the commercial marihuana cultivation. Unfortunately that problem is the old devil, money.

These costs do not stop with law enforcement and must be considered throughout the whole criminal justice system. With these costs being what they are, and considering the huge profits being made by the growers, there has to be more attention brought to diverting these profits to law enforcement. A strong program of criminal fines and confiscation of property must be pursued, and let the wrongdoer pay for his apprehension, conviction, and detention.

Over the years there has been much discussion and controversy over marihuana. I think that we in law enforcement feel that it is time for Congress and Federal authorities to decide where this country is going with its marihuana programs and policy. If that policy called for a strong and vigorous marihuana eradication program, we then need to develop long-range planning to reach that goal. We must develop multiagency cooperation, including the Federal Government, between all agencies concerned.

Only with this united front and support will we ever hope to reach this goal. The Federal Government needs to take a leadership role in supporting local authorities in enforcement of these rules to protect all of the people.

Senator HAYAKAWA. Thank you very much, Mr. Jondahl.

Tom Crofoot, county supervisor, Mendocino County.

STATEMENT OF TOM CROFOOT, COUNTY SUPERVISOR, MENDOCINO COUNTY, CALIF.

Mr. CROFOOT. Thank you, Senator.

I am here to speak at the outset as a Mendocino County supervisor, and I have a resolution, and a further statement, that has been passed by the board of supervisors of Mendocino County.

In addition to that, I have some statements and some concerns that I have as a parent, a resident of Mendocino County, a veteran of 17 years of law enforcement, an attorney who has prosecuted and defended marihuana cases.

At the outset, on July 20, 1982, the board of supervisors of Mendocino County passed a resolution that reads as follows:

Whereas Mendocino County, because of its geography and climate is capable of growing large quantities of marihuana, and whereas this situation has resulted in a large criminal element engaging in the commercial cultivation of marihuana in this county; and, whereas the law abiding citizens of Mendocino County and the Mendocino County Board of Supervisors abhor this activity and the negative county reputation that results from large-scale commercial marihuana cultivation; and whereas the produce of this cultivation is marketed in areas outside the county of Mendocino, and the State of California; and, whereas the optimum location to stop the distribution of marihuana is at its source; and whereas the optimum means to stop the use and distribution of marihuana is to destroy by any legal method the onerous crop and successfully prosecute the grower; and, whereas due to extreme budgetary constraints being suffered by Mendocino County—and, I might add, all the counties in California—it will not be possible to provide from the county budget sufficient funds, personnel, or materiel to adequately eliminate the anticipated 1982 crop; and be it resolved that

the Mendocino County Board of Supervisors request that immediate consideration be given by the government of the State of California, and the U.S. Government to immediately provide sufficient funds, personnel and materiel to assist the Mendocino County sheriff and district attorney to completely destroy the illegal 1982 marihuana crop and to successfully prosecute commercial marihuana growers; and be it further resolved that the Mendocino County Board of Supervisors encourages the courts of this county to strengthen their sentencing and fining policies where the sale and commercial cultivation of marihuana and the distribution of cocaine and other illegal narcotics is involved.

That was passed, Senator, on July 20, of this year. Subsequent to that, we were notified of this hearing, and the following statement was passed in response to that:

The Mendocino County Board of Supervisors has recently adopted the attached resolution—which I have just read—requesting Federal assistance in an effort to eradicate commercial marihuana cultivation in this county. This board would now like to reemphasize its strong conviction that the commercial cultivation of marihuana is a national and not a local problem. In 1981 the Mendocino County Sheriff's Department seized 16,000 plants with a conservative value of $1,000 per plant, and the sheriff and district attorney each acknowledged that many illegal gardens were not abated, due solely to lack of funds and personnel.

The large quantities of marihuana grown in this county are not consumed in Mendocino County, nor entirely within the State of California. Many dollars and law enforcement man-hours which would be better spent in other endeavors are necessarily spent in marihuana enforcement in urban areas throughout the United States.

The most cost-efficient and effective means of eliminating the marihuana problem is to stop it at its sources, which means putting the manpower and materiel in the gardens to destroy this contraband before it is harvested and distributed through illegal channels.

The Mendocino County Board of Supervisors herewith forwards its previous resolution and continues to prevail upon the Federal Government to come forth with assistance in eliminating commercially cultivated marihuana from Mendocino County.

Those are the statements that I have been authorized to make as a supervisor and as a representative of the board of supervisors.

In addition to that, my own statement is that we have many people in the county, we have a very large county with spotty population. So we have a lot of hill country, a lot of marihuana growing area.

There are people in legitimate enterprises who have occasion to go into those areas: The California Department of Forestry in fighting forest fires, the foresters from the local timber companies, which, until the bad economy, was our mainstay, hunters, who are deer hunting in that area, and the people who actually own the land, who, unbeknownst to them, have marihuana growing on it.

The sheriff has just gone through a litany of problems that have arisen on that land. I have a great concern that we are giving away parts of our county to illegal groups, people who are not willing to

obey the law, and the people who are willing to obey it and legitimately want to use that land are being penalized for it.

I think that we have to—that we must have adequate funds, personnel, and materiel to resolve this problem. And we spoke in the resolutions several times about abatement. Ideally we would be able to find the garden, and successfully establish that the person who cultivated that garden had cultivated it, and prosecute him.

What we run into is we have more gardens found than we have time to go out and go through the necessary investigative process to get the grower—the search warrant process and all of the legal processes that are required.

Therefore, before the season is up, we have not successfully removed all of those gardens. And I would like to see an adequate amount of personnel, the technologies that Mr. Dial spoke of, which is, I think available. I would like to see it made available to the counties, through the Federal Government, to spot these gardens, and then go in and remove the gardens.

I think that it is important that we prosecute, but it is equally important that we prevent, at the garden stage, this product from moving into the cities where it is going to cost us a great deal more money in eradicating the problem there.

We are looking at the possibility of confiscating lands where marihuana is cultivated, upon establishing that the person who cultivated it owns that land.

And I would just reiterate that I think the technology is available. I think the military probably has, for instance, pictures of every inch of that land, and the capability of taking pictures of every inch of that land. With the cooperation of the Federal Government we could identify every marihuana garden that is in the county.

And I would be happy to respond to any questions.

Senator HAYAKAWA. Thank you, very much, Mr. Crofoot. I have some questions to address to all of you, but let me start with you, Mr. Dial. Do you agree with the DEA assessment that 7 percent of the marihuana consumed in this country is grown domestically? Or is it more than that?

Mr. DIAL. Well, I think, Senator, in looking at where the statistics came from, those are 1980 statistics. And possibly at that time that would have been an accurate assessment. But I think in 1982, this year, I would think that in looking at what we see in our investigations down there, it is more like 25 to 30 percent, particularly with the efforts that DEA and the Coast Guard and Customs have started in, down in South America, and in the Atlantic and Gulf down there.

So I would say 25 to 30 percent would be a more realistic figure.

Senator HAYAKAWA. So the percentage of the marihuana consumed that comes from abroad is declining significantly.

Mr. DIAL. Absolutely. And I think you are going to continue to see that over the years. Because it is much easier now to grow it than to worry about transporting it from South America up here.

Senator HAYAKAWA. You are all invited to comment on all of these questions.

I have another question: In the case of an individual who is found to be growing marihuana, and you have located him, he is

the owner, he is the grower, he is the seller, and so on, have you had any convictions on these grounds in Mendocino County, and when you have that conviction what happens to him?

Mr. CROFOOT. I'll try to answer that, and I'll let the sheriff follow up on that. We have had convictions for that. We have been able to establish who the person is that is responsible for the cultivation of the marihuana. In many cases, unfortunately, those cases have been reduced through the judicial process. They have been diverted, or they have been reduced from possession—from cultivation to mere possession, which is a reduced charge. And quite frankly, the sentences have not been adequate, and to my knowledge—and Sheriff Jondahl can correct me on this—we have not sent any grower, or maybe there was one recently, to State prison, even after multiple offenses.

Mr. JONDAHL. During the last 3 years, we have arrested approximately 300 people for cultivating marihuana. It has been a variety of everything, as Tom said, from diversions to reductions. But the sentences have not been, in my mind, enough to really have a positive deterrent effect. In other words, the risk—the gain that is available there is certainly risk that they are taking. And there is no doubt that we are letting down in that category.

Most, probably 98 percent of the cases result in either a plea or a diversion, or a reduced sentence. And no, I do not believe we have sent a person to the State prison.

Senator HAYAKAWA. My impression is that in California we are generally more permissive about marihuana than many other States.

Mr. JONDAHL. I think that is probably correct.

Senator HAYAKAWA. What about Mississippi? What do you do when you find a grower who is growing marihuana, and you know he is the owner of the land, it is on his land, that he is growing and selling it? You caught him and convicted him in court?

Mr. DIAL. Well, it generally depends on the quantity involved. And, of course, Mississippi does have a misdemeanor policy in regard to possession of up to 1 ounce of marihuana. So, basically it depends on if it is 500 or 1,000 plants, then he is more than likely going to prison over that. And we have been, I would say, taking a more conservative viewpoint toward that growth of domestic marihuana, than, say, California, or some of the other States.

Senator HAYAKAWA. You have really sent people to prison?

Mr. DIAL. Oh, yes, sir. We've really sent people to prison.

Senator HAYAKAWA. For years?

Mr. DIAL. Yes, sir. We feel like that as we make the public more aware of the problem in Mississippi that the sentences are going to be more severe for growing marihuana in Mississippi because of all the health hazards and everything related to the use of marihuana.

Senator HAYAKAWA. So they can grow it in California.

Mr. JONDAHL. I wish that we could get a little harder sentences in California. I think that would have a greater deterrent effect in the long run, and we might be making better headway.

Mr. DIAL. We have got to take the incentive out of growing. That's all there is to it. And there are a lot of ways that you can do it.

Fines, forfeiture of property, or forfeiture of assets that they gain during the time that they're growing marihuana over period of years, if you can show that they accumulated these portions by being involved in growing marihuana.

So, but I think if you provide a deterrent effect there, which is possibly prison and then take the incentive out of growing it, then you're way ahead of the game.

Senator HAYAKAWA. Mr. Dial, you are vice chairman of the State Drug Enforcement Alliance.

What is the nature of this organization, and why was it formed? How old is it?

Mr. DIAL. The State Drug Enforcement Alliance was formed back in 1976, and it was primarily because of the mobility related to drug traffickers, the fact that they do not necessarily stay in one place like our old time criminals used to. And there was a need for the States to get together and discuss and to provide better ways and more cooperation and coordination in investigations across jurisdictional boundaries. This was the main reason that the State Drug Enforcement Alliance was formed, because of basically the resources that DEA had were not sufficient to cover all the avenues of investigation, particularly these multijurisdictional violations. And those are the reasons that it was formed. It is composed of 26 States, the heads of agencies of 26 States that meet twice a year and formulate policy and try to coordinate legislation so that we do not have any one particular State that would provide a haven for drug traffickers and that sort of thing.

Senator HAYAKAWA. I would like to ask Mr. Crofoot the following question. Could you give us a profile of the typical marihuana farmer in Mendocino County? Who are they? Where do they get their capital to farm?

Mr. CROFOOT. I guess I would have to start by stereotyping.

Senator HAYAKAWA. Yes.

Mr. CROFOOT. Yes. And at the outset, I think that the marihuana farmer who came up there and went into the big operation was an escapee from the urban area.

Senator HAYAKAWA. He is not a farm boy.

Mr. CROFOOT. He is not a farm boy. He is generally off the campus someplace.

Senator HAYAKAWA. Where we educated them.

Mr. CROFOOT. That is right. And they have escaped from the urban scene and came out to enjoy the wide open spaces, and this was an opportune way to make money.

I think that was the beginning of it. Unfortunately, because of our lack of success in eradicating the problem, the profit—we have not been able to take the profit out of it. And I think that there are more people now who are looking at with the idea that they are willing to run the risk for the potential profit that is in it.

And I have, since I have been quoted in the paper at one time or another, I have got articles sent to me by people who generally are progrower, which are interviews of people who are in their fifties and older who are growing it. And the rationale at that time is that they are just trying to make ends meet, and so they are doing some growing.

But I think that it is doing even more than that, and I think, unfortunately, it is cutting across all, or much of the strata. Because people are not stupid. If the money is out there, and it is out there year after year, and we are not successfully prosecuting and not successfully penalizing those who are growing, then there is nothing to stop others from doing it.

So unfortunately it has expanded much beyond the initial group that I attempted to identify.

Senator HAYAKAWA. How about your experience, Mr. Dial? Are these refugees from the universities?

Mr. DIAL. I would not say that they are refugees from the university. No. We have a different situation probably in Mississippi because we have a lot of farming interests down there.

But we have found that a lot of the farmers, like Mr. Crofoot says, people aren't stupid. And when the economy gets rough and they are not making ends meet, and that opportunity presents itself, and especially the ability to make a great deal of money in a short period of time, to ease them over their bad economic situations, they are more than likely going to do it.

And we have found that some of these people are very sophisticated. I would say the refugees from your universities, particularly in their growing techniques, and their ability to grow very high quality marihuana. And, of course, we have an ideal climate in Mississippi because we have the only marihuana research project in the United States there, at the University of Mississippi, where they grow all different types of varieties.

And so I would say that it does not, that you cannot categorize or classify the typical grower.

Senator HAYAKAWA. Well, do many of them come directly from argiculture, that is, they were growers of tobacco or corn?

Mr. DIAL. No, sir.

Senator HAYAKAWA. And then found this to be another kind of crop that is more profitable?

Mr. DIAL. It is definitely more profitable, but I do not think that they are actually farmers. It is not very hard to grow marihuana. And there are all kinds of publications out now that tell you exactly how to do it, and I think that there will be some people on after us who are probably more expert at that than I.

Senator HAYAKAWA. I have another question. I have heard statements to the effect that marihuana growers who use fertilizers, pesticides, chemicals and so on, in violation of all EPA requirements, are quite careless about poisoning water, polluting the streams, et cetera, through excessive use of pesticides.

Do you come across this kind of problem?

Mr. DIAL. Yes, sir, we have, to the extent that we have had some streams that have been polluted. And we feel like that probably they are going to use anything that is going to make their crop more prolific and more productive. And we feel that they are pretty much like the criminal element. They do not have to abide by or go by the regulations that are issued by EPA.

Senator HAYAKAWA. An ordinary farmer would.

Mr. DIAL. That is right.

Senator HAYAKAWA. What about your experience in Mendocino County on this sort of thing?

Mr. CROFOOT. We have not run across where there is actual pollution of streams or environment that we could see. But at each growing, or each plantation, there is always chemicals and fertilizer there, to get the best quality sinsemilla, naturally.

And I think probably rather than pests in our area, the biggest predator to the marihuana crops are the deer. So we do not have many deer around where marihuana grows.

Senator HAYAKAWA. Do the growers shoot the deer?

Mr. CROFOOT. I would have to assume so. They certainly disappear.

Senator HAYAKAWA. There is another question that is bothering me in California. Are there communities in California where the enforcement of the laws on marihuana are difficult as a result of indifference to the crime, because of the economic importance of the crop to the communities involved? They sell an awful lot of automobiles and farm equipment.

Mr. JONDAHL. I do not think so.

Senator HAYAKAWA. You do not think so.

Mr. JONDAHL. That I have run across myself. I have heard of areas, certain little locations, nucleuses that probably the local business people are glad to see the big wad of fifty and hundred dollar bills come out at the end of the year, and pay cash for all of these things.

But those, I think, are rather isolated places. For the most part I don't think that that is a fact.

Senator HAYAKAWA. Do you have a comment on this?

Mr. CROFOOT. Well, the press seems to like to play that up. And when you are not being 100 percent effective, there is always the specter of somebody laying down on the job, and not really trying as hard as they can.

In our situation and in the surrounding counties that I am aware of, and we seem to get this—all of the counties on the north coast because of the marihuana problem—get this type of speculation in the news.

And actually I think that it is the press that talks about the economics of it, and not the people in the county. I think that equating, talking about the economics of marihuana, and what it does for a county, and I hear it from people, generally the propeople who are attempting to argue with my position on this. They talk about how much it helps the economy and the economy is otherwise down.

I think that the same argument could have been made during prohibition and Al Capone might have been the greatest thing that happened in Cairo, Ill., because of the amount of liquor that he was sending around, and the amount of money that was generated by that.

I do not think that anybody that lives in the county, anybody that is thinking clearly supports the crop because of the economics.

Senator HAYAKAWA. A couple of years ago it seems to me that the California Department of Agriculture, making its annual report on agricultural successes of California, reported the value of the marihuana crop. And then the following year they withdrew that report. What is the story behind that?

Mr. CROFOOT. That was an unfortunate situation. It came about before I was on the board. I guess that is my disclaimer. Where the then agricultural commissioner that we had felt that because there was moneys being generated by a growing crop, that he should legitimately report that.

I think the fallacy—there are several fallacies. One is that you can go back and equate it to the Al Capone analogy. The other is that if you are going to report an amount of money that a crop produces, there has to be some objective standard for determining what the crop is. And to find out from the sheriff, for instance, that he had been able to confiscate *x* number of plants begs the question, because it does not respond to how many plants he did not take.

And I think that it was a guess at the very best. And we would not guess upon a grape crop if we did not have some objective standard, or on a timber crop, or on pears. So, I think it was invalid.

Senator HAYAKAWA. Is the invalidity the only reason for its withdrawal?

Mr. CROFOOT. No, I think there were two issues. One was the invalidity of the figure, and the other is the invalidity of calling that a cash crop, when in fact what we are talking about is a contraband that should be abated as opposed to something that we should be putting on the market to sell to improve the economy.

So I think that both are serious concerns.

Senator HAYAKAWA. If you have any further comments or remarks that you would like to make, suggestions as to laws that you would like to see passed or repealed, to further your own working in your respective fields, I would be grateful if you would write to me.

Meanwhile, I think that I shall recess this hearing to hear further panels starting at 1:30 this afternoon.

Mr. DIAL. I really think that until we decide that we have to use technology in order to control this thing that we are not going to make any progress. The effort that we have seen this past year, and in the year past is such that you cannot do it with physical labor. It has to be done with technology. And I think that the Federal Government, regardless of what the cost is, and I think it could be done cost effectively, must take that as its responsibility, and assist the States from that standpoint in identifying where the plants are and where it is being grown.

And until we progress to that point, we are not going to be effective in trying to eradicate this problem.

Senator HAYAKAWA. I would like you to write a letter to that effect.

Mr. DIAL. Yes, sir.

Senator HAYAKAWA. I would be very grateful and I will pass it on to the chairman of the full committee, Senator Jesse Helms, or whoever will be chairman of this subcommittee.

[The following letter was subsequently received by the committee:]

11-688 O - 83 - 3

MISSISSIPPI BUREAU OF NARCOTICS,
Jackson, Miss., October 12, 1982.

Senator S. I. "SAM" HAYAKAWA,
U.S. Senate,
Washington, D.C.

DEAR SENATOR HAYAKAWA: I appreciated very much the opportunity to appear before your subcommittee and testify as to the dramatic increase in the production of domestic marijuana. It was very apparent in listening to the testimony that the situation is completely out of control. It is hard to understand how a current or future comprehensive eradication effort can be developed on the national level if the statistical data base is not more recent than 1980; conservative estimates in 1980 were 7 percent of all marijuana available was produced domestically, I submit that in 1982, it is approximately 35 percent and rising.

Our situation on the State level becomes more difficult to cope with each day. The current existing methods of detection and eradication are outmoded and archaic. I can't believe the Federal Government with all its resources cannot develop a scientific technological method of detection. This would greatly reduce the heavy manpower burden we must bear in our efforts to control the growing of domestic marijuana. Perhaps some research in the area of satellite photography could hold the answer to this problem. I really don't know; we're grasping for straws and feel that this is a national problem. The Federal Government must dedicate more resources on a more timely basis than it has in the past if any eradication program is to be effective.

The Federal Government (DEA) should also work very closely with State and local drug enforcement agencies in developing an overall strategy which can be more effectively utilized than the current piecemeal effort.

I appreciate your effort and interest in this area. If I can be of any further service to you or your staff, please do not hesitate to call.

Sincerely,

THOMAS L. DIAL, *Director.*

Senator HAYAKAWA. We are recessed until 1:30.

[Whereupon, at 12:02 p.m., the subcommittee recessed, to reconvene at 1:30 p.m.]

AFTERNOON SESSION

Senator HAYAKAWA. Let me start by apologizing that we are starting this late. I had hoped to start the afternoon session at 1:30, but we had a series of votes one after the other on the Senate floor, and so I had to go and earn my salary and vote.

We have this afternoon the third panel, consisting of the following: George Farnham, National Organization for the Reform of Marihuana Laws, an organization also known as NORML; Ed Rosenthal, author, Oakland, Calif.; Frederick Ford, attorney, Alexandria, Va.; and Michael Moran, Grass Roots, San Francisco, Calif.

I think the use of the word grass in that organization's name is a double entênte.

Would you take seats up here, gentlemen?

Mr. FARNHAM. I believe Mr. Moran is not with us today.

Senator HAYAKAWA. He is not. Where is he, back at Grass Roots?

Mr. FARNHAM. I believe he missed his flight from California.

Senator HAYAKAWA. Mr. Farnham, you are listed first, so we will call on you first.

Mr. FARNHAM. Thank you, Mr. Chairman.

Senator HAYAKAWA. We customarily summarize the testimony.

Mr. FARNHAM. I will summarize my testimony.

STATEMENT OF GEORGE FARNHAM, NATIONAL DIRECTOR, NATIONAL ORGANIZATION FOR THE REFORM OF MARIHUANA LAWS

Mr. FARNHAM. During the past several years the domestic cultivation of marihuana has emerged as a leading cash crop in the United States. NORML estimated the market value of domestically cultivated marihuana as $8.2 billion in 1981. This ranked marihuana as the fourth largest agricultural crop in the United States, behind only corn, soy beans, and wheat.

Conservative estimates indicate that there were at least 100,000, perhaps as many as 200,000, Americans earning their primary source of income from the domestic cultivation of marihuana. NORML believes it is impossible to enforce the marihuana cultivation laws without the expenditure of billions of dollars and a coinciding increase in violence in what is already a too-violent industry.

I testify before you today not as a spokesperson for the marihuana growers, but as a representative of the Nation's 30 million current marihuana consumers, as well as those who favor marihuana reform of the laws in this Nation.

NORML supports a regulated taxed marihuana market that entirely removes marihuana from the criminal justice system. Such a system could raise from $10 to $15 billion a year in excise taxes for marihuana, as well as saving up to several billion dollars a year in enforcement costs. A regulated market is the only effective means available to dismantle the increasing problem of marihuana cultivation on Federal and private lands.

Although NORML supports a regulated marihuana market, I will concentrate my testimony today on the illicit cultivation of marihuana. My comments will focus on the origin of the domestic marihuana market, the primary areas in which domestic marihuana is grown, the types of individuals who cultivate marihuana, the value of the domestic marihuana crop, and the results of law enforcement efforts thus far to control the domestic cultivation of marihuana.

Marihuana has been grown in the United States for hundreds of years. George Washington grew acres of hemp, another of the common names for the cannabis plant, at Mount Vernon. During the Colonial era, Virginia law provided for criminal penalties against those individuals who did not grow hemp, which was the second largest U.S. agricultural crop in the late 1700's.

During World War II the U.S. Agriculture Department embarked on a massive hemp-growing campaign. This was particularly true in the Midwest where wild hemp plants still exist in many areas.

The cultivation of marihuana for recreational purposes began on a small scale in the late 1960's. Nearly anyone who grew marihuana at that time did so for personal use and not for profit. In the early 1970's small numbers of individuals began to cultivate marihuana for profit. These people tended to gravitate toward rural areas of the United States, with northern California and the mountainous areas of the Ozarks the most prevalent growing areas at that time.

Marihuana farming in this country followed the typical pattern of American agricultural ingenuity. American growers, who have more recently become known as America's "green-collar" workers because of the bright green color of their product, have developed hybrid seed strains and cultivation techniques which have led to a far greater yield of marihuana per plant with higher potency which can be grown during a shorter growing period. This enables the American grower to increase production while reducing the number of plants grown and the length of time needed to grow them. This, in turn, reduces the grower's risk of being arrested.

It is very simple to pinpoint the transformation of the American marihuana market from a cottage industry to a multibillion-dollar cash crop. The year was 1978 and the reason was paraquat. Paraquat is a lethal herbicide which was used in attempts to destroy Mexican marihuana in the late 1970's. In March 1978, the Department of Health, Education, and Welfare released a warning that smoking paraquat-contaminated marihuana could cause irreversible lung damage. That announcement ignited a paraquat panic. Instead of having its intended deterrent effect on marihuana consumers in the United States, the Mexican program created a demand for uncontaminated marihuana product.

Within 2 months of the HEW announcement, thousands of people who had never grown marihuana for profit became marihuana farmers. Since the production of that first billion-dollar crop in 1978, the domestic marihuana crop has roughly doubled in size and value each year. In 1981, NORML estimated domestic marihuana production at 5,000 tons. This amount accounted for approximately 20 percent of all marihuana consumed in the United States in 1981. In 1982, production has risen dramatically. By the time the harvest ends in another 30 days, total production for this year will be approximately 8,000 to 10,000 tons.

Since the massive Federal crackdown against marihuana smuggling in southern Florida, it is estimated that the total amount of imported marihuana has decreased. As a result of this, marihuana grown domestically now accounts for more than one-third of the marihuana consumed in the United States. It will rank as the third largest agricultural crop in the country in 1982, behind only corn and soybeans, with a value in excess of $10 billion.

Marihuana is being cultivated in all 50 States, and on Federal land in at least 43. California is generally considered to have the largest marihuana crop, followed by Hawaii, Kentucky, Oregon, and Arkansas. Other States with large marihuana crops include Florida, Georgia, Kansas, Missouri, North Carolina, Oklahoma, Tennessee, and Texas. Each year the list grows longer and domestic marihuana market expands to meet an ever increasing demand.

As marihuana cultivation has increased, so has the use of Federal land to grow it. Marihuana growers choose Federal land for several reasons. The most obvious is that it is nearly impossible to arrest someone for growing marihuana on Federal land unless that person is caught standing next to the plants.

Recently, the amount of marihuana grown on Federal land has increased between 30 and 50 percent of total production in this country. In 1982 that means that between 2,500 and 5,000 tons of marihuana will be harvested just on Federal land. Besides the

lower rate of arrest, there have been several other factors that have turned growers to growing on public land as opposed to private land. One of them has been mentioned earlier today as the forfeiture laws.

The forfeiture laws, which are in vogue among law enforcement officials, particularly in California, are being utilized to take away the land used by growers as property in perpetuation of a crime. Growers have responded by moving to public land. Their theory is that you cannot forfeit what you do not own.

The same reasoning applies to paraquat, the herbicide used by Florida law enforcement officials to destroy some of the larger marihuana fields in that State. The impact of the threat of paraquat against domestic growers is twofold: First, the growers choose to grow on Federal land as they do not want paraquat sprayed on land which they own. And second, growers realize that paraquat will only be used on the larger marihuana fields because of regulations governing the use of the herbicide.

Marihuana farmers therefore tend to grow smaller plots of marihuana in a greater number of locations. This disperses the areas where cultivation occurs, and vastly increases the actual number of marihuana fields under cultivation.

The primary concern regarding the cultivation of marihuana on Federal land is the inevitable violence associated with it. As long as there are over 100,000 people actively involved in a multibillion-dollar cash economy there will be violence. Most of the violence connected with domestic cultivation is not related to law enforcement officials, but rather, against people who attempt to steal a grower's crop. Since marihuana cultivation is illegal, growers operate within their own system of justice. Most growers will fight to prevent someone from stealing their crop. They are very often armed and many growers even sleep in their fields near harvest time to protect their crops.

Few growers, though, would risk violence or gun fire against law enforcement officials during a raid on their farms. Marihuana growers do not view themselves as criminals despite their classification as such by the law. Even though many are armed to protect their own crop, there are few actual cases of law enforcement personnel being fired upon while making arrests in a marihuana field. It is more likely for surveillance flights to be fired upon from the ground.

The typical person who cultivates marihuana is very different from the stereotype described by law enforement officials. Most growers are male, in their 30's, have attended college and many even hold graduate degrees. A large percentage of the domestic marihuana farmers are Vietnam veterans. Most have no prior criminal record, are married and usually have children. Few growers make large profits as crops are often lost to natural elements, thefts or law enforcement actions. Until 1982, it was rare for growers to cultivate more than 100 plants. Generally, grower's strive to grow quality marihuana rather than to grow in quantity. Nearly all growers live in rural areas of the country, tend to be nonpolitical and to possess a strong desire to live their lives without government interference. Most growers are against the legalization of marihuana for the obvious reason that it would put them out of

business or potentially lower their profits. They realize that the price of marihuana is artificially high due to illicit market conditions. Growers profit because of marihuana's illegality. Legalization remains the single largest threat to the marihuana grower.

The structure of the domestic marihuana market is different from that of all other illicit drugs. With imported drugs, a small number of people concentrated in a small area generally control the supply of the drug in the United States. A single shipment from Columbia may contain 30 tons or more of marihuana. It would take over 1,000 domestic growers to produce that quantity of marihuana; with well over 100,000 growers, the source of domestic marihuana is broad based instead of highly concentrated. This greatly compounds law enforcement efforts, as a far greater number of investigations, arrests, and prosecutions must take place in order to remove the same tonnage of marihuana from the market.

Most marihuana farmers do not directly market their product. In the last several years, the domestic market has seen the emergence of marihuana brokers, people who buy entire crops from farmers in rural areas and who then transport it to more populated areas. Marihuana rarely travels more than several hundred, or occasionally a thousand, miles from where it is grown. By the time it reaches the marihuana consumer at the market level, domestic marihuana has usually changed hands no more than 5 or 6 times. This is contrary to imported marihuana which may change hands as many as 30 or 40 times from its place of origin to the consumer in the marketplace.

Law enforcement efforts against marihuana have been totally, completely ineffective, futile, and have done more to encourage than discourage the growth of marihuana cultivation in this country. If it had not been for the Mexican paraquat program, the overnight creation of a $1 billion domestic marihuana market would not have occurred. The crackdown utilizing forfeiture laws has spurred the growth of even more marihuana on Federal land. The Federal efforts in Florida to interdict marihuana smuggled from Columbia has resulted in an explosion of marihuana cultivation in the Southeastern section of the United States.

Law enforcement officials have already destroyed over 250,000 marihuana plants this year in Kentucky, over 160,000 in North Carolina, and more than 130,000 in Tennessee. Without the much heralded Federal crackdown in Florida, such previously unheard of numbers would not have been cultivated.

Even with these record numbers of plants being destroyed, it is estimated that law enforcement officials destroyed no more than 10 percent of the total harvest in these States.

Marihuana growers are generally intelligent people who do not view themselves as criminals. They view themselves as patriotic Americans engaged in providing marihuana that is grown in America and that supports the American economy.

Law enforcement efforts, no matter how extensive, will not deter American marihuana farmers from growing another crop nor thousands of new farmers from entering the domestic marihuana market in the future. Growers are already developing and are close to perfecting a system for growing marihuana indoors under artifi-

cial lights. This will remove them one step further from law enforcement efforts.

The growers can always find ways to avoid arrest and prosecution. Unfortunately, one of these ways is through corruption. Corruption in the law enforcement community is as large a problem as the violence associated with cultivating marihuana. Corruption and violence go hand in hand.

It is impossible to have a multibillion-dollar cash market operating throughout the country without law enforcement officials being continually tempted by large offers of cash to look the other way. For decades J. Edgar Hoover refused to allow the FBI to become involved in drug investigations for fear of the high potential for corruption. Within months of FBI involvement in drug investigation, the first FBI agent was arrested for selling drugs.

More recently, a DEA agent, a 16-year veteran of Federal drug enforcement efforts was indicted on marihuana smuggling charges in southern Florida. As long as the people operating in marihuana markets have more money than law enforcement officials, corruption will remain a serious problem.

In addition, marihuana cultivation primarily occurs in areas that have not traditionally been involved in the producing or smuggling illicit drugs. Because of the large number of growers, the potential for corruption of law enforcement officials has been vastly increased.

NORML does not support marihuana legalization merely because law enforcement efforts have proven futile. NORML's support principally rests upon the question of civil liberties, of adults having the right to make up their own minds on marihuana without the threat of criminal penalties. Yet it is apparent that the war is over. The growers have won, and law enforcement has lost.

Law enforcement officials can continue to escalate the battles, and thereby increase the violence, but that will not change the fact that law enforcement officials have lost the war.

It is futile to spend additional billions of dollars to control what can no longer be controlled within the confines of the criminal justice system. Only the complete and outright removal of marihuana from the criminal justice system can possibly dismantle the illicit cultivation of marihuana on Federal lands and throughout the United States.

Thank you, Mr. Chairman, and I'll answer any questions at the conclusion of this panel.

Senator HAYAKAWA. Thank you, Mr. Farnham, we shall have some questions after we hear from the rest of the panel.

Mr. Rosenthal?

Mr. ROSENTHAL. Thank you. I would like to thank you for allowing me to come.

Senator HAYAKAWA. It is a pleasure to have you here, Mr. Rosenthal.

Mr. ROSENTHAL. I would like to submit two things for the committee. I am not going to read them. One is an interview with Carleton Turner, who is now the President's drug policy adviser. And I did this interview in 1979, but a lot of the materials, most of the material is still relevant. And also an account of my journey to

the marihuana fields in India, which took place in 1980.[1] These are for the committee to peruse.

Senator HAYAKAWA. This is an account of your journey to India.

Mr. ROSENTHAL. Yes. And this is the, an interview that I did with Dr. Carlton Turner when he was at the Research Institute of Pharmacology at the University of Mississippi, and that was before he became President Reagan's drug policy adviser.

It is a wide-ranging interview. It covers not only botanical and chemical questions, but also a lot of the political questions. You might notice pages 5, 6, 7, and 8, especially.

Senator HAYAKAWA. Thank you.

STATEMENT OF ED ROSENTHAL, AUTHOR, OAKLAND, CALIF.

Mr. ROSENTHAL. The cultivation on public lands of marihuana is indeed a problem. Illicit cultivation of marihuana in the United States has increased substantially both on private and public property, to the extent that domestically grown marihuana may account for 30 percent of the commercial market by volume, and a higher proportion of the total revenues because of its premium value.

The percentage of domestic marihuana actually consumed is much higher, since most people cultivate only for personal use. In all, probably 2 million people or groups cultivate marihuana in the United States.

The law enforcement groups have outlined the threats of violence, diversion of public lands, and the illicit nature of farm operations. They have spoken to plantation owners growing rich, and of a group of what they call outlaws profiteering from drugs which are purveyed to America's youth.

In actuality, most growers are otherwise law abiding citizens. For the most part, they are not violent people. Because of the illegality of their enterprise, they receive no protection by the law enforcement people. They become, instead, prey to lawless, violent ripoffs, thieves, and robbers. In fact, in some areas, cultivators fear ripoffs more than police, since the latter usually do not engage in violence.

There are a few people getting rich from marihuana cultivation, just as there are success stories in any industry. But most cultivators do not find the pot of gold. Although a grower typically starts with several patches, with a gross potential revenue of several hundred thousand dollars, most growers are happy to actually harvest 10 to 30 pounds of buds worth $15,000 to $45,000. This is gross revenue before expenses.

The marihuana cultivator for security reasons usually uses the most marginal, inaccessible land. In order to protect his efforts during the last few months, he leaves the comforts of home and family to live in the fields as the buds develop and become vulnerable to natural disasters and thieves. If he was paid for his time on an hourly basis, his efforts would net him somewhere between $10 and $20 an hour, not a very high scale considering the risks, legal problems, threats of violence, and an uncertain crop.

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[1] See p. 67 for a reprint of the interview with Carleton Turner, and p. 81 for the account of Mr. Rosenthal's India journey.

In spite of this, use of public lands for marihuana cultivation will increase under the present regulatory structure. The two reasons for this are increasing unemployment, especially among young people, and the newly enforced practice mentioned by Mr. Robertson, of confiscating private lands used for growing marihuana.

With this procedure property owners have a disincentive for using their own lands. Increased law enforcement presence will lead to more organized actions by increasingly brazen groups who will be more daring.

Marihuana is a very easy plant to grow. Varieties of cannabis are cultivated in all climates, from the Arctic, where it is grown in several valleys, to equatorial zones, such as Belize, where it is the country's second largest revenue crop after sugarcane.

It is cultivated illicitly in just about every county in the United States, and adapts well to indoor growing conditions using either natural or artificial light. I would like to expand on that. Most gardens in the United States now are actually indoor gardens. A person can by a metal haloid lamp, a 1,000-watt metal haloid lamp, grow approximately in 50 square feet about 50 ounces a year, or 3 pounds a year. And more and more people are growing indoors, because there is not the threat of police action.

Carlton Turner, President Reagan's drug policy adviser, said that it would be impossible for the Government to eliminate cultivation. Part of cannabis' adaptability is due to its widespread cultivation around the world, and its symbiotic relationship with humans, which goes back at least 5,000 years. It was used by humans first for its fiber, which is the longest and strongest in the plant kingdom. Some researchers think that cannabis helped humans make the transition from animal coverings to woven plant fiber clothing. The plant also produces a grain like seed which has a high oil content.

As humans spread its area of cultivation from the Himalayas through China, India and North Africa, Africa, Europe, and the Americas, the gene pool has increased, so that today, there is in the total cannabis gene pool the reality of marihuana being grown outdoors to maturity in every part of the United States. And also the seasons are getting shorter, so that some marihuana now can be harvested as early as August 15.

The efficiency of marihuana farmers has increased tremendously over the last 15 years. Cultivators now are able to grow potent marihuana in areas with short growing seasons. For instance, cultivars descended from Afghani and South African varieties may be ready for harvest in early September.

With more knowledge of nutrient requirements, and the development of techniques for producing sinsemilla, or seedless marihuana, the potency has increased dramatically.

While we all applaud the tenaciousness and ingenuity of the American farmer, this unregulated industry does create certain problems for the society as a whole. For one thing, there are over 20,000 people in jail at this moment for marihuana offenses. Ten percent of the Federal jail population are marihuana offenders. The figure includes arrestees awaiting arraignment, hearings and trials as well as those already convicted. About half a million

people are arrested for marihuana offenses each year. This is more than for any other offense with the exception of traffic violations.

Most arrestees are young people who would have no intercourse with the criminal justice system but for the marihuana laws. Most of these people do not think of themselves as criminals, and see the law as wrong. Since 1967, at least 7 million people have intersected with the marihuana laws. Over 20 million people use marihuana on a somewhat regular basis. The marihuana laws are making a large minority of our citizens into criminals over a relatively benign substance. And let us make no mistake about it. Whatever the DEA and the other Government bureaucrats and the voluntary organizations, which are getting large money from the DEA say, marihuana is a relatively benign substance. There has never been a case reported of a person dying from an overdose.

In the United States we have been running an open experiment for 15 years. With the millions of people using marihuana, if it were harmful, we would see the results in hospital admissions, mental health clinics and the like. But there are no hard statistics to back up the charges made by antimarihuana reform groups.

Another problem with the marihuana laws is that they keep the product from being subject to regulation. In my studies, I have come across many instances where material offered for sale would never pass an agricultral inspection. Often it is contaminated with insects, their eggs, or larvae. It is also attacked by molds and fungi. Unless all the materials are inspected, there remains a threat to the food chain. There is little possibility of intersecting all the legal marihuana. Current estimates of seizures run in the range of 10 to 20 percent.

Most imported marihuana comes from Colombia, Mexico, Thailand, and Jamaica, countries whose entomological life has not been explored adequately. All America needs is one parasite, disease, or mold to enter our food chain. Many of us are familiar with the war against Medfly, which was probably introduced by a tourist illegally bringing a banana or two to the mainland. Without regulation, thousands of tons of uninspected, raw, unprocessed material comes into our country every year. The only way to inspect it is to regulate it. And that cannot be done as long as it remains illegal, and this is a very serious problem, tremendously serious problem.

I was recently in Morocco and when I was there I inspected the hash plants up in the mountains. And up there you can see thousands of different kinds of insects on these plants. And while this material doesn't usually come into the United States, material from other foreign countries does.

The marihuana laws deny the American farmer the ability to grow hemp. Earlier I mentioned that hemp could be used for its fiber, seed, which is used as a source of animal seed, and its pulp. Potential uses of hemp have not been explored in over 50 years. Hemp was used to make the first paper. It is nonself destructing, suitable for Bibles and documents. The process for making paper from hemp is relatively nonpolluting since lignin, which holds wood fiber together, is present only in small quantities. Thus, the acids needed in large quantities in pulp paper processing is not used much in making hemp paper.

With a little research, hemp could become a major crop for farmers. Acre for acre, cannabis produces more fiber and pulp than forest. And it is more sensitive to the market, since it is grown in just one season.

American farmers are in a depression. Surely they should be given a chance to grow a crop which might save their farmsteads.

I believe that if farmers were allowed to grow it, the market would soon develop for hemp textiles. This would not be the first time that Americans have worn hemp. American homespun was home-grown hemp. The word canvas comes from cannabis, and I would speculate that the first of Mr. Levi's jeans were made from cannabis.

Many farmers are already growing small stands of marihuana which have saved their farmsteads from the auction block. If wheat is $3.50 a bushel and marihuana, $1,500 a pound it takes little figuring to see which is the more profitable crop.

Many people not connected with the marihuana culture are growing to supplement their incomes, or to help them survive in rural America.

According to the DEA, Americans spent between $50 to $60 billion a year on marihuana. Yet, the Government collects no revenues from this rather small industry. No excise, sales, corporate or personal income taxes. In fact, the Government, State and local, probably spent $5 billion a year enforcing the laws. I will define that. If you take the number of people in jail, how much it costs to keep people in jail, enforcement cost per personnel, all of these figures, whenever the DEA quotes a figure, they do not quote their personnel cost, or the cost of the judicial or the prison system. And then if you take the cost of welfare, for their families because of, the cost of taking people from their jobs, and from work, it adds up to about $5 billion a year

Our economy suffers further losses from job time lost because of arrests and incarcerations. Our police forces are overworked to begin with, and spending a good part of their time and budget chasing marihuana users, for in general that is who gets arrested.

When you look at most of the arrests, they are not for cultivation. They are usually for use, and usually young people, minorities, and the poor. So, the police are spending a tremendous amount of time booking people who are having misdemeanors.

Estimates of growers income range from $7 to $15 billion a year. The rest goes to importers, distributors, and dealers. A good part of the economic profit is as a result of the risk factors associated with the industry. If the Government developed a system of regulation, it could reap a harvest of $15 to $20 billion a year in tax revenues, make a lot of otherwise law-abiding citizens legal, spawn new industries and the total economic benefit of which cannot even be estimated

On the other hand, if the Government decides to create more severe laws or to increase enforcement, the siutation will deteriorate further, with an ensuing increase in violence, alienation, and organized crime.

We can look back to prohibition to see all the evils that alcohol prohibition created. Marihuana prohibition is now about 45 years

old. It is an experiment which has failed and the antimarihuana laws should be repealed.

Thank you.

Senator HAYAKAWA. We now have testimony from Frederick Ford, attorney.

STATEMENT OF FREDERICK W. FORD, ATTORNEY, ALEXANDRIA, VA.

Mr. FORD. Thank you, Mr. Chairman. I am an attorney in private practice in Alexandria, Va.

Last year I was privileged to serve on a volunteer task force to study the feasibility of developing a regulated controlled taxed system of cannabis, or marihuana, commerce.

The Task Force on Cannabis Regulation, as it was called, consisted of a volunteer informal group of private citizens, mostly lawyers, economists and social scientists experienced in public service.

The members approached the subject of cannabis regulation, seeking to craft an alternative cannabis policy, rationally structured to meet feasible and appropriate goals.

While commissioned by organizations interested in cannabis policy, it deliberated independently of the policies of any specific group or organization. It was in the interests of the public as a whole that the task force sought to serve.

It is in that same spirit that I appear here today to address possible solutions to the problem of clandestine cultivation of marihuana in national forests and parks, and the attendant problems caused by the cultivators, sometime violent efforts to provide security for their illegal crops.

The activities of these marihuana cultivators is reminiscent of the activities of the moonshiners of the alcohol prohibition era. Just as the violence and danger caused by these illegal alcohol makers subsided and virtually disappeared after the repeal of alcohol prohibition, so too will the violence and lawlessness created by the illegal cultivators of marihuana on national park lands and elsewhere subside and disappear when marihuana prohibition is repealed, and a rational, controlled, regulated system established in its place.

In attempting to create a rational alternative to current cannabis policy, the task force considered the signs of failure in the present system. Briefly outlined, they are as follows:

First, despite decades of the best, most intense efforts by law enforcement officials, drug abuse prevention experts and supporters of the present system, marihuana is generally available in our society. In the words of the New York Times, it is "the most widely accepted illegal indulgence since liquor during Prohibition."

Mr. Farnham and Mr. Rosenthal have outlined many of the failures of the present system. I would say only this: When marihuana was first made illegal by the Federal Government in 1937, only 50,000 people in this country had used the substance.

Today, 45 years and billions of dollars later, some 60 million people, one-fourth of the American population, have used marihuana at least once, and close to 30 million use it regularly. The at-

tempt to eliminate marihuana use simply has not worked, just as the attempt to eliminate alcohol use in the 1920's did not work.

Second, enforcement costs of the current prohibition are astronomical. The Federal Government spends a billion dollars, at the least, in a host of different programs and agencies trying to eradicate marihuana and its demand. The Drug Enforcement Administration budget has exceeded $200 million for the last 3 years, 25 percent of the Federal prison population has been sentenced for drug trafficking, approximately one half of those for marihuana trafficking. The Coast Guard budget is $2 billion per year; its major law enforcement mission is to interdict marihuana smugglers off the Atlantic and gulf coasts. A major effort of the U.S. Customs Service, at every port of entry, is to intercept persons who meet the profiles of drug smugglers. No revenue, of course, is collected as a result of that effort, like the duties collected when luxuries are brought into the country, or the penalties when undeclared items are intercepted.

In 1980, more than twice as many persons were arrested for marihuana than for rape, robbery, and murder combined, misallocating scarce law enforcement resources from the investigation and prevention of the kind of crime that the public justifiably dreads. This money must be considered a lost opportunity for other programs, including crime prevention, education, and health care.

Third, demand for marihuana by 1 in 4 Americans has spawned an enormous underground economy. Hundreds of millions of dollars in cash transactions are never reported as income. Hundreds of millions of dollars leave America, never to be invested here, boosting the international trade deficit. Hundreds of millions of dollars have been accumulated and spent perniciously to inflate the economy of south Florida, and corruption is flourishing, just as it did during alcohol prohibition.

Fourth, during alcohol prohibition, thousands of people died or were permanently blinded or paralyzed by drinking poisonous preparations containing—and often not containing—alcohol. Unfortunately, a similar situation occurs today with marihuana and other illicit drugs. While alcohol itself presents serious physical side effects, consumers have little need to fear that adulterants will blind them or paralyze them even if they drink only a little. But Americans who buy marihuana are unavoidably exposed to health risks unrelated to the marihuana itself. Marihuana is sometimes sold mixed with PCP or other dangerous drugs. Sometimes it contains natural contaminants as a result of improper storage or processing. Yet, ironically, the marihuana consumer who seeks the assurance of purity by cultivating his own marihuana greatly multiplies his risk of going to jail.

Fifth, marihuana prohibition has fostered widespread disrespect for law and science, resulting in loss of credibility about marihuana's health effects and statements about other drugs. Consequently, attempts at drug education and rehabilitation are seriously hampered if not entirely thwarted.

For you as policymakers, though, the issue becomes what can we do about the situation. In answering that question it is important to consider what we are seeking to accomplish by establishing a rational, coherent social policy toward marihuana.

The task force believes that any good cannabis policy must at the very least seek to achieve the following goals: One, the minimization of cannabis abuse. Abuse is defined as the use of cannabis to the extent that such use interferes with personal development or achievement or encroaches upon the rights of others.

Two, the protection of public health. A cannabis policy should contain strong disincentives for adulterated or contaminated cannabis, as such disincentives exist for foods and other ingestibles.

Third, elimination of the illicit market in cannabis, permitting the concentration of law enforcement resources on the prevention and investigation of crime against persons, property and the public.

Fourth, the production of revenue, by subjecting the cannabis industry and the profits made in it to taxation.

And fifth, the removal of legal obstacles to the emergence of a new hemp industry, stimulating American agriculture and creating new jobs and industrial products.

A corollary to curbing abuse is allowing the responsible use of cannabis by adults to the extent that such use does not invade the rights of others. This privilege is essential to any workable cannabis policy, and unless it is established, none of the policy goals can be achieved with available resources and law enforcement techniques that our Constitution will allow.

One of the problems with the current public policy toward marihuana is that it is based on the faulty premise that any use of marihuana, by any person, at any time, in any circumstance, constitutes drug abuse. Were we to similarly assert that any use of alcohol, by any person, at any time, in any circumstance, constituted alcoholism, the ludicrousness of the statement would be apparent to all.

Most people, including probably a large number of the people in this room, use alcohol in a responsible manner. Likewise, most marihuana users do so in a responsible manner. Those who do abuse marihuana should be treated for their illness, just as alcoholics are.

Having considered the goals of cannabis policy, the principles sought thereby to be upheld in the historical experience of the repeal of prohibition, the task force considered and rejected three of what it considers the four broad policy options available to lawmakers today.

The first option, rejected by the task force, is the strict enforcement of current law. Successfully applying legal sanctions to a sizable sample of marihuana consumers would require the creation of an all out police state. The task force believes that an emphasis on law enforcement to discourage marihuana is like throwing money down a hole. If prohibition could possibly work, it would have by now. It has not, it cannot and it will not. We must realize that the criminal law is the most poorly equipped, the most costly, the most destructive and the least effective means of discouraging marihuana use.

The second option that the task force has likewise rejected is outright legalization. That is, the total repeal of prohibition, producing a situation where marihuana is treated under the law like tomatoes or other foodstuffs. The goals of the cannabis policy we pro-

pose require moderate regulation to protect public health, limit availability to minors, and produce significant tax revenue.

The third option has been widely discussed in recent years and has been enacted as the law of 11 States. It is partial prohibition, more commonly known as decriminalization. However, decriminalization does not address the basic policy goals that the task force believes a good cannabis policy ought to address, and thus was rejected as a long-term option.

The fourth policy option, which the task force has adopted, involves regulation and taxation. To implement this option, the task force drafted a model Federal statute called the Cannabis Revenue Act, or CRA.

The bill rescinds current provisions in Federal law governing cannabis, and replaces them with the legal mechanisms necessary for a regulated tax market in marihuana. Basically the CRA is enabling legislation that allows States to adopt a variety of alternative policies to control marihuana use and commerce.

The statute regulates by Federal law only those aspects of the cannabis market which in the view of the task force are demanding of uniformity throughout the United States, in order to prevent the emergence of another underground market derived from interstate smuggling, as now occurs to some extent with cigarettes.

If the CRA were enacted into law, States would have a wide range of cannabis policy options from which to choose. In the first place, a State could make no change in its law, in which case cannabis would remain illegal and adults would have no legal access to regulated taxed cannabis in that State.

The situation would be similar to that following the repeal of prohibition in 1933. As there were many dry States following the repeal, there would, no doubt, be under the CRA, States where cannabis would remain illegal.

A second choice available to States would be to participate with the Federal Government in the regulation and taxation of cannabis under the CRA. Under this option, a State would repeal its current provisions of law governing cannabis, and replace them only with the following provisions required by the CRA.

First, measures restricting sale or distribution of cannabis to minors, imposing such sanctions as each State determines. Two, measures restricting the operation of motor vehicles under the influence of marihuana, with appropriate penalties, civil and/or criminal, as determined by the State, as well as legal safeguards which are based on quantitative standards for determining actual levels of impairment.

Without further regulation at the State level, commerce in cannabis would be regulated exclusively by the CRA, and the administrative regulations promulgated thereunder by the Secretary of the Treasury.

The resulting cannabis market would have the following features: An individual wishing to go into the business of cultivating, processing, storing, distributing, or selling cannabis, even on a small scale, would be required to obtain a license. No person or business entity could be issued a license for more than one activity in the commercial chain, thereby precluding anyone from obtain-

ing a monopoly on the commercial process from cultivation to retail sale.

Just as current alcohol laws permit individuals to brew a quantity of beer or wine for personal and household use, so, too, would individuals be allowed personal cultivation, possession and noncommercial distribution of cannabis, up to specified amounts.

Like wine, cannabis would be commercially available for purchase by adults from licensed retailers. Cannabis packages, like pipe tobacco or herbal tea, would contain 1 ounce of processed cannabis. The package would bear a tax stamp, and the label would reveal the origin of the cannabis, the identity of the contents by species and variety, the net quantity, potency, and a cautionary label.

Retail sales of cannabis, like the retail sale of tobacco cigarettes, would take place from a variety of merchants, most likely liquor stores and tobacconists. Since the retail price would contain a large revenue component, the price of cannabis packages will be relatively high, probably from $25 to $50 per package. Cannabis would not be sold by vending machine.

Advertising would be regulated, but not necessarily banned. The task force has included optional provisions in the CRA concerning advertising. No. 1 would ban all advertising. No. 2 would subject cannabis advertising to the same restrictions that the wine and beer industries are now subject to.

The CRA also contains alternative provisions for disposition of revenue collected by the Federal tax on cannabis. Under No. 1, revenue is shared between the Federal Government and the States that regulate. Under No. 2, revenue would be retained by the Federal Government.

A third choice available to the States would be to impose their own regulatory and/or taxation schemes in addition to the CRA, as many States now do with alcohol and tobacco.

For example, a State may impose the following restrictions on the cannabis industry: First, license quotas, such as now exist for retail alcohol licenses. Second, restrictions on public use of cannabis, including the types of public establishments where cannabis can be consumed. Third, further taxation of cannabis, perhaps earmarking cannabis revenue for particular purposes, like housing for the elderly, energy conservation or drug abuse education and rehabilitation.

States would not be eligible for Federal revenue sharing if they imposed further restrictions on advertising, labeling or personal use as defined in the CRA.

The full task force report and a draft of the proposed Cannabis Revenue Act has been submitted to the committee as an appendix to these prepared remarks. And I would ask that it be entered into the record.[1]

Senator HAYAKAWA. So ordered.

Mr. FORD. I wish to emphasize on behalf of the task force that the recommendations contained in the Cannabis Revenue Act are not chiseled into stone. They are not meant to be the last word on

[1] See p. 85 for the full task force report, and p. 108 for the proposed draft of the Cannabis Revenue Act.

cannabis regulation and taxation. They are submitted to you in the hope that they will be the beginning word in an informed and responsible public debate over marihuana policy in the 1980's. This plan is a prototype and we invite modifications and refinements.

The problems created by the clandestine cultivation of marihuana in our national parks and forest exist solely because of marihuana's illegality. I, for one, am tired of my tax dollars being wasted on futile law enforcement efforts to stop the use of marihuana.

I am also tired to seeing marihuana cultivators, importers and distributors making billions of dollars in untaxed income, while I struggle as a small business professional, to pay my fair share of taxes every year.

More than anything else, at this point, Congress should begin the study of rational alternatives to our current policy. Studies should be commissioned to explore the impact of a regulated, taxed cannabis market. Such studies should cover not only tax revenues, but also agriculture, common carriers, the packaging industry, law enforcement, the income tax system, and the many other elements of the national economy.

The debate can no longer be "marihuana or no marihuana." Like it or not, marihuana is here to stay. The question is: What do we do about it in order to achieve the goals of minimizing abuse, protecting public health, eliminating the black market, and producing significant tax revenues?

The lessons of alcohol prohibition should have taught us that the Government in a free society cannot and should not control the individual habits of its citizens.

Individuals must bear the full and ultimate responsibility for the consequences of their own actions, and cannot look to the Government for self protection.

As President Reagan often observed during the 1980 presidental campaign: "The role of government is to protect us from each other, not from ourselves." There are alternatives to our current policy, and I ask this committee and Congress as a whole to investigate the task force's recommendations.

I would like to thank the committee for this opportunity to publicly present this proposal and I would be happy to answer any questions.

Senator HAYAKAWA. Thank you, very much. I am grateful to all three of you for a sober and nonquarrelsome presentation on a subject on which a lot of emotion has been expended.

There are some questions that occur to me, and I should submit further questions as they occur to me later.

But, Mr. Ford, I was puzzled by your statement that marihuana ought to cost something like $25 or $30 a package. Is that what you said?

Mr. FORD. Yes.

Senator HAYAKAWA. How do you work that out?

Mr. FORD. Well, currently, the going market price for an ounce of marihuana is approximately, on the average, about $40. The actual production cost of an ounce of marihuana is only $1 or $2 to the person who is actually producing it What you are paying for when you pay that $40 is $38 for the risk of the cultivator, the distributor, and everybody else in the chain.

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What we are suggesting is that if that additional $38 was not going to pay their risk, but going into tax revenue, then the current price of 1 ounce of marihuana would probably remain the same, or perhaps a little bit lower depending on the tax rate that was used on it. Consequently you would not have a situation where under regulation and taxation the price of 1 ounce of marihuana would be so much less that people would want to be buying more, if the market would stay, in terms of price, similar to what it is today.

Mr. ROSENTHAL. I would like to make a friendly disagreement with that. When you were talking about the production cost of an ounce of marihuana, you were talking about overseas for Colombian, or Thai, or Jamaican marihuana.

Actually, the way marihuana is prepared in the United States is a very labor-intensive process.

And each bud is separately trimmed, and to trim an ounce of marihuana, just to trim the ounce takes between 15 minutes and 1 hour depending on the variety. And the actual cost of production, of marihuana was being produced on favorable land, rather than marginal land, the actual cost of production would probably come to about $15 or $20 an ounce, for sinsemilla, so that the actual cost, so our costs would be higher, but sinsemilla, in the United States now goes for between $150 and $300 an ounce.

So what he was talking about was imported, which is pretty low quality, and sinsemilla would be a lot higher.

Senator HAYAKAWA. So you put a tax on top of that.

Mr. ROSENTHAL. Well, right now, part of the cost of marihuana is a risk factor. Part of the reason people are making an economic profit on it, or very high profit is for that risk factor, and that risk factor would be eliminated. So if the risk factor would be eliminated, that is where the tax comes in. Between the risk factor and the manufacturing cost and general regular profit.

And that is pretty much how alcohol is run.

Senator HAYAKAWA. Supposing you were to tax, then, this high grade sinsemilla at about a rate analogous to that at which we now tax whiskey. What would marihuana cost then?

Mr. ROSENTHAL. Harking back to alcohol prohibition, when prohibition ended, the cost of alcohol went down one-third to one-half of the price. I think that is what would happen. What we would have is, we would have sinsemilla going for between $50 and $60 an ounce and probably total taxes, including income taxes, it would come to around $20.

So that there would be $20 for production and profit, $20 for retail, distribution, and retailing, and $20 for taxes.

Senator HAYAKAWA. OK, now what, since I am not familiar with marihuana firsthand, what is an ounce. I mean——

Mr. ROSENTHAL. How many joints in an ounce?

Senator HAYAKAWA. Yes.

Mr. ROSENTHAL. OK. If we are talking—sinsemilla is seedless, so that there is very little waste on an ounce of sinsemilla. And from that, depending on how you roll, some people have different habits, you would get between 20 and 40 joints. And the quality, of course, the quality of sinsemilla varies, so that you might have sinsemilla that is 5 or 6 percent THC, which I think is probably the average

in California, and then there is very high quality. For instance, if you were to grow an equatorial variety that does not grow in northern California, such as Colombian, Jamaican, or especially a Thai variety, you would have to grow that in an area like southern California where there is a 10-month growing season. That might go up to 8, 10, 11 percent. So one joint of 8- or 10-percent marihuana for sophisticated users would go, get two or three people high.

I hope that answers your question.

Senator HAYAKAWA. Yes.

Mr. ROSENTHAL. This is just from research.

Senator HAYAKAWA. You have just heard rumors to this effect. Now, do you find it necessary to say that?

Mr. ROSENTHAL. Well, I actually, I see myself as a humorist, and I cannot miss a good one liner.

Senator HAYAKAWA. See, I belong to a generation that never attempted to buy marihuana. I went to San Francisco which was full of pot and I never learned to smell it. I do not even know the smell of it. It is very odd. I think that I went to student parties where students all around me were smoking it, but I did not know what was going on.

Mr. ROSENTHAL. You know what you just said actually brings out the point that we were trying to make: Marihuana is a very benign substance, and, you know, you probably did not notice any unusual behavior among the people who were smoking it. There were not any fights. There was not any violence associated with it. That is one of the points that we are really trying to make, that this substance has been painted as this killer of youth and as a drug of abuse, and it is really quite a benign substance. There are no hospital admissions for it, nobody dies from it. That is more than we can say for strawberries, aspirin, or Darvon.

Senator HAYAKAWA. Well, I cannot say that it is all that benign. I can show you some pretty appalling academic records.

Mr. ROSENTHAL. Well, there have been studies done in that and those studies are very contradictory. There are some studies that show that there is no difference in grade averages from people who——

Senator HAYAKAWA. No, I mean absolute dropouts. From all possibility of graduation or career, or anything else. Because of complete absorption in some kind of——

Mr. ROSENTHAL. Changing values

Mr. FORD. I think perhaps it illustrates the point that marihuana, like any other substance, like alcohol, any number of substances, like valium, or other prescription drugs we have can be abused. Some individuals do abuse the substances. They are individuals who need treatment and help. They do not need to be thrown in jail.

By and large, though, the vast majority of marihuana users are responsible users. They smoke in moderation in much the same way that the vast majority of Americans drink in moderation. We do not advocate the use of marihuana and certainly are supportive of any programs there are to discourage the use of marihuana by young people.

I personally do not believe that a young person in their developing years should be taking any drug—alcohol, marihuana, or otherwise.

Senator HAYAKAWA. All right, now, you have different State laws saying that you must not drink alcohol until you are 21, 19, or 18, depending on what State you are in. Would you approve of such laws governing the use of marihuana?

Mr. FORD. Yes. In fact under the Cannabis Revenue Act it is required for a State to set age limits in order for the State to participate with the Federal Government in the revenue-sharing tax aspects of the act.

Senator HAYAKAWA. What percentage of the marihuana consumed in the United States is grown on public lands?

Mr. FARNHAM. NORML's estimates are that approximately 30 to 50 percent of all the marihuana grown in the United States is grown on Federal lands, and that percentage increases each year.

Senator HAYAKAWA. From 30 to 50 percent?

Mr. FARNHAM. Of total marihuana production in the United States. Overall, probably about 2,500 to 5,000 tons in 1982 will be grown on Federal lands.

Senator HAYAKAWA. Now, there is a significant portion of the makeup of the community that is concerned about what they regard as the dangers of marihuana smoking.

Mr. FARNHAM. Certainly marihuana is—I think the National Academy of Sciences last February accurately stated that marihuana is a serious national concern. It certainly is a given fact that marihuana is not a harmless drug, that there will be people that will abuse it, and certain classes of individuals, such as adolescents, pregnant women, people operating dangerous machinery or driving automobiles who should not be using marihuana during those times.

But as Mr. Ford has said, I think the overwhelming majority of healthy adult Americans who are smoking marihuana are doing so at a reasonable level, and are not seriously damaging their health. But there is, as the National Academy of Sciences says, a serious national concern regarding the health of marihuana consumers.

Senator HAYAKAWA. Then you would say that marihuana has dangerous effects on people who are too young, or——

Mr. FARNHAM. Which is why we would have age restrictions. I never smoked marihuana until I was 21 and I would certainly not encourage anyone else who was a teenager to ever use marihuana or any other drug.

I think when marihuana is legalized, as is inevitable, that there should be age restrictions, and very possibly it will be set at 21. Many States are now increasing the age for first use of alcohol, and I think that is a positive measure.

Senator HAYAKAWA. That kind of safeguard should be built in, just as it is for alcohol?

Mr. FARNHAM. Definitely there should be safeguards regarding age restrictions, driving under the influence. They should never repeal those statutes. They should be made stronger. I think there is a definite need for a marihuana test to be developed to test someone who is under the influence.

Senator HAYAKAWA. There is no such test at the present time?

Mr. FARNHAM. There is no test to test under the influence. There are urinalysis tests, and blood samples that can test whether marihuana is in the system, but marihuana remains in the body's system for 2 to 4 weeks after smoking even a single joint and doing a urinalysis or blood test to determine that marihuana is in the system does not indicate that a person is under the influence. That is what is needed very much for enforcing driving under the influence statutes.

Senator HAYAKAWA. Well, essentially we are not here to discuss this particular part of the problem. The particular part that I am concerned with as chairman of the Subcommittee on Forestry, Water Resources and Environment is the public lands, which should be accessible to everybody. Under the present circumstances, it is often not accessible to hikers, who are threatened with firearms, when they approach a marihuana plantation. Not accessible to cattlemen, lumbermen, et cetera. And free access to the wilderness, to Federal lands is impeded by the fact that this marihuana business has developed on Federal lands.

So I want to go back to that particular question. To what degree would legalization change that situation?

Mr. ROSENTHAL. It would end growth on Federal lands, because there would be a licensing system on private land. And people would have no needs—first of all, part of this would be home cultivation would be legal. And so that people who are cultivating for their use could do that on their own property, and people who are cultivating commercially under regulatory licensing system, would be able to do it on their own private lands.

So it would virtually eliminate the cultivation of marihuana on Government land.

Mr. FORD. They would have no need to want to use public lands to avoid prosecution or otherwise, because they could do it legally without the hassle.

Mr. ROSENTHAL. And now there is a tremendous disincentive to cultivate on your own land, because if they catch you they are going to confiscate the land.

So if somebody who is living in the country says well, last year I grew on my own land. But this year I am going to grow on Government land. And that way, if you grow on Government land, unless they catch you in the act, even if they confiscate your crop, they still are not going to be able to involve you in any kind of legal controversy.

Senator HAYAKAWA. There had been numerous attempts to legalize the cultivation and use of marihuana in California, as you know, and there is an organization dedicated to this caused called the California Initiative.

What has been the track record of attempts to get the voters to approve of such a proposal?

Mr. ROSENTHAL. Well, unfortunately, it has been a very bad track record. Except in 1972, the petition drives have never reached the ballot stage, so that it has only been on the ballot once where it lost about 2 to 1.

There really is not an effective marihuana lobby or organization in California right now, and that has its own political reasons for that.

But it is not a very good track record.

Mr. FORD. I think that one of the problems over the last 10 years, since we have been discussing the whole idea of marihuana policy is that those who have advocated the legislation of it have not really come up with a concrete proposal. And that is what the task force sought to do in our work, was to draft an actual proposed bill that would do that.

And at this point in time, we are looking forward to seeking sponsors, perhaps for the next session of Congress, to work toward the introduction of this legislation, so that it can be before the Congress, and responsible public debate on the entire issue initiated. There are two methods of trying to achieve the goals that we want for cannabis policy, and the current prohibition efforts simply are not accomplishing those goals.

We feel that a regulated tax system can accomplish those goals much more effectively and without the large expenditures of money that the current system does.

Senator HAYAKAWA. Well, I am very grateful to all three of you gentlemen for what you said in your testimony. As I said, this is a more sober discussion of this than I have been involved in before.

If you have anything additional that you want to add, I would be very grateful if you would write to me. Although I am leaving the Senate at the end of this year, I will pass the letters on to the chairman of the Agriculture Committee who will pass them on to the appropriate subcommittees.

May I say again thanks to all three of you.

Mr. FORD. Thank you very much.

Mr. FARNHAM. Thank you.

Mr. ROSENTHAL. Thank you, Mr. Chairman.

Senator HAYAKAWA. We will now hear from the fourth panel. Lee Dogoloff, executive director, the American Council on Marihuana, and Joyce Nalepka, National Federation of Parents for Drug Free Youth.

Where are you located, Mr. Dogoloff?

Mr. DOGOLOFF. I am located in Rockville, Md.

Senator HAYAKAWA. Mr. Dogoloff, would you like to begin?

STATEMENT OF LEE I. DOGOLOFF, EXECUTIVE DIRECTOR, AMERICAN COUNCIL ON MARIHUANA AND OTHER PSYCHOACTIVE DRUGS, INC.

Mr. DOGOLOFF. Mr. Chairman, it is a pleasure to be here and to appear before you today as executive director of the American Council on Marihuana.[1]

Over the last 15 years I have devoted my professional career in Government and now outside of Government to dealing with the difficult problems associated with drug abuse. My most recent Government position was as the principal adviser to the President on drug policy in the White House.

A few words about the American Council and what it is. Created in 1977, we are a nonprofit private organization dedicated to taking the latest scientific information about marihuana and other drugs

[1] See p. 128 for the prepared statement of Mr. Dogoloff.

and finding ways of communicating and translating those to the American public. And we do that in a variety of ways.

Here is a series of our monographs that I will leave with you which really talk about various aspects of the problem. Each of these monographs has been produced by noted scientists in the field. We have a panel, our scientific advisory board, who are people drawn from the highest educational institutions in the country. and these monographs have their views in it, and it is quite well respected in the field.

The subject of your hearing today is the cultivation of marihuana on public lands. This issue, like domestic cultivation of plants, and the importation of marihuana from other countries, is part of an extremely serious problem

All produce adverse effects and negatively impact our society.

Now, commonsense tells us that the major determinant of drug use is availability. The hashish loafer of India and the kif indigent of Egypt are illustrative of what happens in countries where cannabis is cheap and accessible.

This can happen to home-grown Americans, too. One of the bitter lessons learned from Vietnam was that the average American was as susceptible to drug abuse as anyone else. Over 40 percent of our soldiers used narcotics there, and about 20 percent became addicted. The problem was so severe and so shocking that it helped spur the Federal war on drugs that was launched in the 1970's.

The American GI was no longer the innocent abroad. He was the victim of the epidemiological equation, namely, that availability, plus low cost, equals abuse. Now, I ask you, Mr. Chairman, how many times do we have to relearn the same lessons. This equation still holds today. It has been estimated that marihuana is the No. 1, No. 2, the No. 3 cash crop in the United States. Furthermore, enough of it is being cultivated on public lands to warrant this congressional hearing.

Because I have seen the scientific evidence on the adverse health consequences of marihuana, and respond daily to requests for help from worried parents, from frustrated teachers and concerned physicians, I am convinced that a firm public policy on this issue is absolutely critical. Not only must we have specific policies restricting the availability of marihuana, but we must translate these words into vigorous effective programs to prevent and eliminate cultivation. The absence of such policies and programs is tantamount to tacit approval of marihuana use.

Let me draw an analogy with the school population. If teenagers can smoke marihuana in the school parking lot with impunity, and if the school lavatory becomes a smoking club where no one complains but the maintenance crew, youngsters interpret that inaction as a green light to continue their illegal and unhealthy behavior. We will be giving the same signal here, both to our children and to the marihuana entrepreneurs, if we fail to take firm actions.

Why am I so opposed to the continued ready availability of marihuana? My concern is based on the known negative impact marihuana has on the health of our society. Please allow me to briefly review the data.

Marihuana is a plant that is composed of over 400 chemicals. When it is smoked, those 400 chemicals produce over 2,000 chemicals, one of which is Δ-9-THC. It has been identified as the principal cause of the marihuana high.

Now, most of these chemicals do not pass through the body quickly. In fact, they are stored in the lungs, the reproductive organs and the brain and remain there for long periods of time.

So as a result, the smoker of 1 marihuana cigarette a week is never free of the drug, and a person who tries it only once carries traces of the chemicals 3 to 4 weeks later.

These chemicals have profound effects on the body. Marihuana not only disrupts the mental processes of thinking, learning, and remembering, but also causes a short-term increase in heart rate while at the same time decreasing blood supply to the user's heart.

Marihuana can also impair sexual development, fertility, and sexual functioning. Marihuana smoke contains more cancer causing agents than tobacco smoke, and like tobacco, can produce sore throats, coughs, bronchitis, and other serious breathing difficulties.

The marihuana high is caused by the action of THC on the user's brain.

Initially, it can be a relaxing sensation, which elevates the user's mood and self-image. It can also lower social and sexual inhibitions. With successive use, however, the euphoric mood changes to a more quiet one, described by users as mellowing out and then into a state of wasting, which brings on a deep lethargy. At this stage most interaction with others stops.

For other users, the high is anything but pleasant. With a strong dose of marihuana there can be sudden feelings of panic, paranoia, or deep depression. And this may lead to suicidal feelings; irritability, and irrational behavior where sudden bursts of unpredictable anger may occur.

The changed reality can be frightening or depressing. Regular marihuana users often develop a collection of symptoms known as the amotivational syndrome. This clinically verified syndrome consists of the general loss of interest in school, recreational activities, or work, and it is characterized by lethargy and an inability to cope with frustration.

At worst, chronic users can experience what marihuana users themselves have termed as a burnout, or complete inability to function. In addition, most chronic users of marihuana often add tobacco, alcohol, amphetamines, cocaine, or other drugs to their mind-altering diet.

Marihuana use is particularly dangerous for adolescents, because it can prevent them from maturing physically, emotionally, and socially. They avoid problems, fail to learn from their previous mistakes, are unable to face challenges, and cannot learn to postpone immediate pleasures for more meaningful and lasting ones. They often fantasize and dream in an abnormal way. They are less likely to experience feelings of personal achievement, or close friendships. Often they no longer feel a need for other people.

Marihuana users participate in fewer of the emotional and psychological stages critical to growing up and they may never catch up to the social, educational, or emotional levels of the nonuser.

In addition to these problems, scientific studies prove that using marihuana impairs the ability to learn, and the ability to handle complex problems involving tasks like driving and flying. This is not a problem of school-aged children alone. Five years after graduating from high school, only 15 percent of daily marihuana smokers had stopped use completely, and just over 50 percent are still daily users.

And in answer to the question of is it really harmful, in 1981, nearly 80,000 people sought treatment in federally funded drug treatment centers for problems associated with marihuana use, and that is not the total system. That is just federally funded. And in terms of emergency rooms, in 1971 nearly 12,000 people appeared in emergency rooms with primary problems involving marihuana, and it ranked 6 among the top 20 drugs that people presented themselves to an emergency room for.

It is not a safe or benign drug. And in its recently issued study on marihuana and health, you have already heard about the National Academy of Sciences' and the Institute of Medicine's conclusion that they have great serious concern about this drug based on what is known.

Illicit drug use is threatening the health of our society and our strength as an industrial Nation. Drug abuse in the sports world and in the Armed Forces, have made front-page headlines. Illicit drug use in the workplace is widespread. The extent of drug abuse in our Nation is frightening. Over one-third of American young adults currently use illicit drugs. One out of every 14 high school seniors is smoking an average of 3½ marihuana cigarettes a day. And in one California study, 16 percent of drivers arrested for unsafe driving had marihuana (THC) in their blood. Moreover, drug trafficking involves over $80 billion a year, seriously affecting the U.S. economy. And Americans are paying over $20 billion a year for lost productivity, accidents and treatment services related to drug abuse.

The problem of drug abuse can be solved. Attitudes and habits can be changed. Public opinion can be changed. For example, in an annual survey of high school seniors, slightly more than 30 percent of the class of 1978 saw great risk in the regular use of marihuana. In the class of 1981, however, 60 percent of seniors felt that way. This increase in awareness of health hazards correlates to a substantial decrease in daily use of marihuana by high school seniors, although the numbers, I suggest, are still shockingly high.

The primary goal of the American Council on Marihuana is to insure that this trend continues downward. Any signal that can be interpreted as condoning use could change the direction of that slope. Any decision that ignores the epidemiological equation and thereby promotes the ready availability of marihuana contributes to increased use.

I submit that neither as individuals nor as a society can we afford the prospect of having such large numbers of Americans so severely impaired by the chronic use of marihuana. Thank you, and I would be happy to answer any questions that you might have.

Senator HAYAKAWA. Thank you very, very much. Your statement is vigorous and eloquent.

Mr. DOGOLOFF. I feel it deeply.

Senator HAYAKAWA. There is no doubt about it.

Mrs. Nalepka, do you want to make a statement?

Mrs. NALEPKA. Yes, I do. But I will be happy to wait. I understand Mr. Dogoloff has to leave.

Senator HAYAKAWA. You have a time problem.

Mr. DOGOLOFF. That is right

Senator HAYAKAWA. I am not sure that I have any questions. You have made yourself so very, very clear. You are not an M.D.?

Mr. DOGOLOFF. No; I am not.

Senator HAYAKAWA. What is your profession?

Mr. DOGOLOFF. I am a psychiatric social worker by training.

Senator HAYAKAWA. I see, and this is what has brought you into direct contact?

Mr. DOGOLOFF. Initially. As a treatment person. As a clinician. But most of my career has been in policy development and policy setting at the Federal, State, and local government levels.

My real concern has to do with signals here, and there has been a history in our country of a lot of confusion around the issue of marihuana. You know, several years ago we had this notion of "reefer madness"; if you smoked one marihuana cigarette you would become a crazed rapist and a murderer. And then we moved to a commission in the late 1970's that said, "Well, marihuana is really a very benign substance, and why should we be concerned about it?" Well, both of those positions were based upon the same amount of scientific information, which was none at all.

Today we have the information, and we need to continue to clear up the confusion. It is absolutely clear. The American Lung Association, for example, is now involved in the issue because of their concern about lung damage. And we are just beginning to get the message out that marihuana use is unhealthy behavior.

And any move on the part of the Government that would lessen penalties or promote availability is going to turn that signal around, increase availability. I can assure you it will mean increased use by a highly vulnerable population, and people are being hurt by this drug.

The fact that nearly 80,000 people presented themselves to a treatment center, a federally funded treatment center in 1 year alone speaks not to the safety of that drug, but to what it is doing to people.

And if you talk to parents, as you will probably hear from Mrs. Nalepka, the stories are indeed heart-wrenching. How can you relax the sanctions on one side, and say well this is for adults and not for children? We have enough problems with that on alcohol, and I think we are finally getting serious about how we deal with alcohol, with the drunk driving issue and so forth. We should not backslide on this issue.

And I do think that there have been successes in the public park lands. I know that 3 or 4 years ago Governor Aryoshi of Hawaii personally was very concerned about it and did in fact commit the National Guard to go in and identify and pull out marihuana crops. I think we need to do more of that, not less. I think we need to give a clear signal that marihuana use and marihuana cultivation are socially unacceptable behaviors and will not be tolerated.

And if we are really serious about that, then we need to translate that into action.

Senator HAYAKAWA. Did Aryoshi do that?

Mr. DOGOLOFF. Yes, he really did. And he continues to do it.

Senator HAYAKAWA. Is he pretty tough about it?

Mr. DOGOLOFF. He is tough about it. He is concerned about quality of life issues, the very same issue that brought this hearing about. His concern was the ability of people in Hawaii to enjoy with safety and relaxation the State park lands. And there was marihuana cultivation and booby trapping and all of that.

And that was a clear statement that that was not to be tolerated, and he felt strongly about it.

And that is a resource that is available to other Governors to employ. And I suggest it is virtually a noncost program, because you have to have a certain amount of training time with the National Guard troops anyway, you have to have a certain amount of helicopter hours flown anyway. Why not put it to good use, rather than just sort of meaningless training exercises.

Senator HAYAKAWA. He specifically used the National Guard?

Mr. DOGOLOFF. Specifically used the National Guard.

Senator HAYAKAWA. They were not on pot?

Mr. DOGOLOFF. I do not know if he did urine testing or not.

Senator HAYAKAWA. Well, I think you have given a very, very strong statement here, and I look forward to rereading it. I do want to express my gratitude to you for bringing this additional literature on the subject.

Mr. DOGOLOFF. Anything we can do to help, please let us know.

Senator HAYAKAWA. Do you want to come up here, Mrs. Nalepka?

Mrs. NALEPKA. Surely. Good afternoon, sir. I apologize for not having a copy of my statement prepared for you.

Senator HAYAKAWA. That is OK.

Mrs. NALEPKA. I received late notice that the hearings were here, and I also appreciate your giving us the opportunity to testify.

Senator HAYAKAWA. National Federation of Parents for Drug-Free Youth.

Mrs. NALEPKA. Yes.

Senator HAYAKAWA. Silver Spring, Md.

STATEMENT OF JOYCE NALEPKA, ASSOCIATE DIRECTOR, NATIONAL FEDERATION OF PARENTS FOR DRUG-FREE YOUTH

Mrs. NALEPKA. We are headquartered in Silver Spring. My name is Joyce Nalepka. I am the associate director of the National Federation of Parents for Drug-Free Youth.

The federation is a grassroots organization founded, directed, and administered by parents. The federation is in communication now with over 3,000 groups of parents throughout the Nation that have formed just within the last 2½ years.

Our primary focus is education, first of parents, hoping that we will be able to teach them as much about drugs as their kids know, in order that they might be able to protect them. None of us had any idea 2 or 3 years ago that we were going to have to be talking to our 10-year-olds about the dangers of drug use, or watch what

you take, or to begin more and more restricting our children's activities because of the availability.

We also intend to educate children, school personnel, and the community on issues relating to drug and alcohol involvement of adolescents.

The National Federation of Parents for Drug-Free Youth opposes any relaxation of marihuana laws, and while I fully understand what the hearings are about, I understand that some of your earlier testimony has centered on the need for legalization. We just want you to know that we very clearly oppose that.

We fully realize the problem that domestic growing of marihuana has created. We feel that there is an answer, several of them, in fact. We must exert every effort at every level to eradicate domestic growing wherever it grows, in our park lands, or in farms, or in mountains, or wherever it is. Paraquat seems to be an effective chemical for controlling marihuana. It has been demonstrated that a country which is dedicated to controlling marihuana growth can succeed. We are told that Mexico successfully used paraquat, reducing its crop from 85 percent of the U.S. market to 11 percent.

NORML is understandably opposed to paraquat use. It kills marihuana. The parents federation supports both domestic and foreign eradication programs by paraquat or other responsible means. Spray it, burn it, bulldoze it, pull it. The method is not important. It is important that we remove the availability.

We believe the current epidemic of marihuana use is due in large part to the prodrug groups such as NORML, the National Organization for the Reform of Marihuana Laws and other organizations such as the Do It Now Foundation. We personally feel that it is as important that we educate others, especially the Nation's children to understand who NORML is and what their motives appear to be as it is for us to continue to oppose relaxation of laws controlling the substance.

Senator HAYAKAWA. Is drug use, marihuana use, increasing at the present time?

Mrs. NALEPKA. Well, current statistics show that we have gone from 1 in 9 of our seniors using regularly to 1 in 11, sir. That is still, 1 in 11 of our seniors, is still very, very high. If I had two children and they were both involved in drugs, to me that is 100 percent.

If it is 1 of my children, that is far too many. We have parents calling us from all over the country on a regular basis. We get an average of 60 telephone calls a day from parents whose children had become involved. The damage from marihuana apparently is a very insidious one, which takes a long time before they realize, and the kids are already——

Senator HAYAKAWA. I am not arguing with that. But is it 1 in 11 now, and it used to be 1 in 9?

Mrs. NALEPKA. Yes; but to us that is not a significant drop. And we are also concerned that the study from which those figures came, indicate we are not certain if they considered dropouts.

Senator HAYAKAWA. I would not relax because of these changing statistics.

Mrs. NALEPKA. I agree, I realize that. But I only want to point out that we are not certain whether that study reflected dropouts.

Does that mean dropouts are up, or marihuana use is down? They surveyed high school seniors, and not many drug-using kids get to be seniors. Many, many of them are dropouts.

I would ask also that you—you might be aware of this—the statistics from the spokesmen of the marihuana lobby, they would have you believe that marihuana cultivation is so extensive that it is now the third most valuable agricultural product, surpassing wheat this year. We would like to know where those figures come from. We understand that neither the Department of Agriculture nor the DEA has enough evidence to substantiate these figures.

What resources does NORML have that they claim to know more than the combined resources of the Federal Government? The answer of course is that it serves their purpose of spreading the acceptance of drug use, to give people the idea that it is futile to fight against the spread of marihuana, that marihuana is cultivated and smoked everywhere.

It is unfortunate that you did not hear from some of the medical experts, more educators, and personal victims of marihuana who could give you graphic and compelling testimony of why our society holds marihuana use, cultivation and trafficking an illegal activity and should continue to keep it an illegal activity.

I am concerned that the witnesses of your third panel used the occasion of this hearing on cultivation of marihuana on public lands as a forum for publicity for their aim of legalization of marihuana. I can assure you that our organization, which is vitally interested in this issue, did not receive any notice that a hearing on legalization of marihuana was being held before this subcommittee.

One of the—the chief counsel for NORML, for instance, has been saying for a long, long time that the greatest danger of using marihuana is being arrested by law enforcement personnel. A lot of our kids have come to believe that, that marihuana is harmless. He says this in spite of Dr. Carlton Turner's testimony that, before Congress, that indicates that approximately 60,000 young people are being admitted for treatment for marihuana-related problems annually.

This figure doesn't even include school dropouts, family heartaches, accidents and low achievement. NORML's former director testified before the House Select Committee on Narcotics Abuse and Control in 1977 that he favored a completely open market, with no age controls and no street controls. We would offer that if legalization were the answer to a drug problem, we would not be spending $60 billion a year in this country to treat alcohol related problems. We simply do not need another alcohol.

We have learned through High Times magazine that drug paraphernalia manufacturers—we read it, too—raised more than $67,000 for NORML. This was touted as the largest single infusion of funds ever made into the then 7-year-old lobby.

In another issue of the paraphernalia digest, Mr. Stroup warned the paraphernalia industry that they might have to sacrifice sales to minors, in order to stay in business. He outlined NORML's past work against paraphernalia laws, and promised to file briefs on behalf of the paraphernalia industry whenever they took their position to court.

Not long after that, the paraphernalia digest published a centerfold sign which they instructed the paraphernalia dealers to post in their stores that said certain items would not be sold to children. And then they printed an editorial in the same edition that said, "Do not forget, you can still sell to whomever you damn well please". The sign was to be put up to keep away the PTA and a list of other people they mentioned.

I would like to call your attention to exhibit 19 [1] in the packet of information that I will give you which I earlier prepared for the U.S. Department of State. It is a letter from a friend whose daughter believed what NORML was telling her about marihuana. She believed it was harmless, and it took us 3 years of trying to convince her, and we never did succeed. Her life has been unalterably damaged.

NORML claims to have the support of some very prestigious groups in their efforts for decriminalization, or now, legalization. I would call your attention to exhibit 12 in the State Department packet. It is a letter from the National Council of Churches which says you are hereby requested to remove the name of the National Council of Churches from the list of purported endorsers of the legalization of marihuana in any and all materials disseminated by you henceforward, as I trust you have already done with the American Medical Association, since it changed its position on this issue.

The above information leads us to wonder how many other groups' names are being misused by NORML.

In addition, Congressmen Billy Lee Evans of Georgia and Robin Beard of Tennessee, in a letter dated September 7, of which I have a copy for you, states that it is not just a matter of having some wrong headed convictions about the absolute right of the individual to use whatever drugs his fancy turns him to. By every meaningful standard, NORML has to be considered a militant organizational arm of the drug culture in this country, working in close collusion with the paraphernalia industry, the drug culture magazines, and to a certain extent even the traffickers.

As parents, we find it difficult to understand how this group has been able to influence so many areas of our children's lives and appear to have so much support of the media.

We intend to take a responsible leadership role, not only in our homes, but in our communities and the Nation, as well, to insure that mainstream views that instinctively protect children move into the forefront and remain there.

NORML has stated they are clearly working for the legalization of marihuana. May I assure each of you, everyone in this room, that the parents of this Nation will not allow decriminalization or legalization of marihuana, and we urge Congress to declare an all-out war on drugs in this Nation.

With an all-out effort, we can make a difference. Indicative of the massive epidemic of academic drug use we are experiencing in the United States is the successful growth of the parent organizations. I just returned from Pittsburgh where we met with representatives of 102 groups that have formed in that city alone in less

[1] The exhibits referred to by Mrs. Nalepka have been retained in the committee files.

than 1 year, 102 groups of parents. We want to assure you that we will always provide sources and examples for our remarks, and we would suggest that you require the same of NORML.

Finally, please remember the major users of marihuana in the United States are children, ages now 11 to 17. In Montgomery County, Md. the average age for beginners is now 11.6.

As parents we will continue to fight for the well-being of all children. We intend to be heard; we are going to raise enough money in this country if we have to beg on the street corners to raise more money to fight drugs than NORML has raised to get the attention of the media. Every time we hear a drug issue, drug paraphernalia issue, they are on the front page of the Washington Post. We intend to get that same kind of attention, because we are speaking for all of the children. And I think indicative, also of the parents interest in this issue, right here in Washington, D.C., our black parents decided they wanted to close drug paraphernalia shops. And they called and asked us for some advice. We met with them once, and on a holiday weekend; we met 3 days later. They had already organized 17 major groups, including 3,200 physicians to close the drug paraphernalia shops in the District. 51 days from the date of that first meeting, the bill was signed in Mayor Barry's office. We noticed a big article in Sunday's papers by the paraphernalia dealers saying that it would not work, they were going to continue to operate. We will see.

It is up to the parents to insure that Mayor Barry and the chief of police enforce that law. Also, 10,000 police chiefs, the International Organization of Chiefs of Police have told us the law is clear and enforceable. And if you really want to see someone with a natural high, I would like to introduce you to one of your constituents, Mrs. Carla Lowe, who you may already know, who just got a unanimous vote out of the state legislature in California to close the drug paraphernalia shops there. It took her 3 years, I believe.

And indicative, interestingly enough, three times, I believe, at least twice, she thought she had the vote to close the head shops. The key vote took a walk, and they looked at the records, and this particular State legislator had received, I believe, $26,000 from the paraphernalia industry. She was undaunted by the loss. She went right back to work. She now has a unanimous vote on the bill. She has it in writing from Gov. Jerry Brown that the bill will be signed. This was before they began their efforts.

California probably has one of the most effective parent group lobbies in this Nation. In the San Francisco Bay Area 14 parents met in someone's living room, and less than 6 months later they had over 100 chapters of a group called Parents Who Care. Parents do care. It is our kids who are being hurt, that are being tossed around in this little poker game.

And we are going to win. We are going to pull out all of our chips. As Mr. Dogoloff mentioned during the last 10 years, there have been over $10 million spent by some very prestigious foundations that I think really believed they were going to get a legitimate study on marihuana. It turned out to be the report of the Drug Abuse Council which very much trivialized marihuana use that led many more of our children to believe that marihuana was harmless. Well, if we have to raise that kind of money, we will. As

I said, as mothers, if we end up having to beg on the street corners, we are going to protect our kids. There is no emotion that runs stronger than that caring concern of a parent for their child. I have seen too many kids hurt. We have been very, very fortunate. I got involved when my kids were 5 and 7, when I recognized the problem. A teenager in my neighborhood asked me to drive him to a rock concert. I had 5- and 9-year-old kids. And I was home baking bread and cookies, and volunteering at scouts and school, and every place they were, swim team or whatever. And I really did not know what was happening with the drug culture. That was in 1978 I drove this youngster to a rock concert and within 30 minutes could not see across the Capital Center Arena, could not see across the arena. And I realized then that if I did not get involved my kids were not going to have a chance. If they have to go out into a world of 80 to 60 percent users, their chances are diminished intensely.

We have gotten involved in a very short period of time. I found many other parents who are. We have been joined by Lions International. We are having our first national conference in 2 weeks here in Washington. We have parents coming from, so far, 42 States. And it is a celebration of accomplishments that we have already achieved.

We have only begun. In 2 years time we have closed drug paraphernalia shops in 31 States, or passed the legislation. And we will see that that legislation is enforced.

That is the least of what we do. The most of what we do has got to be to save the children.

Senator HAYAKAWA. Mrs. Nalepka, your testimony is very eloquent and very, very moving.

I wish you every success.

Mrs. NALEPKA. I thank you.

Senator HAYAKAWA. The testimony we had this morning was almost entirely from sheriffs and law enforcement officers. They are all on your side on this.

Mrs. NALEPKA. I would have suspected that, thank you. That is reassuring news.

Senator HAYAKAWA. And they were talking about it from the point of view of strict law enforcement, not hearing so much about children. So your testimony is very, very valuable to have.

But they have a job to do, to protect the public lands.

Mrs. NALEPKA. Of course.

Senator HAYAKAWA. And it is from that point of view that we had a very, very fine discussion.

So I just want you to know that the NORML did not have a monopoly on the discussions here today.

Mrs. NALEPKA. I am glad to hear that. I would also suggest that we need to give the police, our law enforcement personnel our support if we need to double our forces in order to do the job. We may have to do a lot more spending in those kinds of areas in order to bring this about. But if we lose our children, it is not going to make any difference how much money we save or do not save.

Senator HAYAKAWA. Well, I have seen enough young people, you know I was a professor for such a long time before I came here, and I have seen enough young people who really were destroyed.

Promising young people, high school and college students, who just are not ever going to be restored to full functioning because they went through school years messing around with marihuana.

Mrs. NALEPKA. And you mentioned, Senator, that you were a professor. So I would presume you were talking to college-age kids. And now we are down to an average beginning age of 11.6, which is talking about fifth and sixth grades.

Senator HAYAKAWA. That is even more frightening.

Mrs. NALEPKA. It is more frightening. We have got a much more potent marihuana than we had in the 1970's and those are all very frightening things We certainly feel that we have the support of Congress. We are just going to keep coming down and speaking our piece and we will do that.

Senator HAYAKAWA. Please do.

Mrs. NALEPKA. Thank you, very, very much for the opportunity.

Senator HAYAKAWA. This closes the hearing for today. Thank you all for being here.

[Whereupon, at 3:39 p.m. the subcommittee adjourned, subject to call of the Chair.]

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APPENDIX

STATEMENT OF HON. WALTER D. HUDDLESTON, A U.S. SENATOR FROM KENTUCKY

The public lands managed by the Department of Agriculture and the Department of the Interior constitute some of our Nation's most valued resources. These lands benefit the public by providing timber, minerals, recreation, and wildlife protection.

Unfortunately, because some of this public land is being illegally used for the cultivation of marijuana, some members of the public visiting these public lands and government employees carrying out their official duties have had their safety threatened. In addition, this illegal use of the land poses a threat to the environment and interferes with the efficient management of the land.

This hearing will provide the Senate with information on the extent of the problem that is created by the illegal cultivation of marijuana on public lands, and on what steps can be taken to ensure the public's continued safe access to these lands.

STATEMENT OF F. DALE ROBERTSON, ASSOCIATE CHIEF, FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE

We appreciate the opportunity to appear before the committee to provide information regarding the cultivation of marijuana on public lands.

The Forest Service is a professional land managing agency charged with the responsibility of caring for over 190 million acres of public lands. These public lands produce a variety of renewable natural resources, vital to our Nation's economy and quality of life.

During the past 3 years, an increasing number of reports have been received of marijuana being cultivated on the public lands including National Forest System lands. This unauthorized use of public lands for growing marijuana constitutes trespass and conflicts with the land manager's ability to accomplish the objectives for which the public lands were established. The Forest Service is becoming increasingly concerned with the cultivation of marijuana on National Forest System lands because of the adverse impacts to:

1. The safety of visitors, contractors, and our employees.
2. The uncontrolled introduction of pesticides and fertilizers into the environment.
3. The ability to accomplish our management objectives.

While cultivation techniques vary widely, some of the more sophisticated growers use rodenticides to control rodents, fertilizers to improve growth, and alarm systems to alert them when people are near the "garden." In some cases, the operations are thoroughly camouflaged and guarded by armed people. The level of effort in guarding the crop generally increases as the growing season progresses and the crop gains value.

Public wildlands are particularly attractive to those who cultivate marijuana for the following reasons:

1. The lands are remote and removed from the scrutiny of large numbers of people.
2. In some situations, private lands used for marijuana cultivation are being considered an element of the crime and may be confiscated by the courts. Where public lands are involved, this option is not available to the courts.
3. The ownership of the land provides no link to the identity of the grower.
4. Some public lands are located in zones where growing conditions are excellent.

In late 1981 and early 1982, the Forest Service made a preliminary analysis to determine the relative impact of marijuana cultivation on National Forest System lands. The response from the National Forests indicated that some marijuana cultivation had occurred on almost every National Forest during the 1981 growing season. The number of reported operations on individual Forests ranged from minor activity to more than 50 on a few National Forests in California, Oregon, and the Southeast. Most activity was generally located in the areas with the longest growing

season. Growers also were attracted to areas with low to moderate road density and low public visitation.

During 1981, the States, counties, and Forest Service received reports of over 200 incidents where users of the National Forests were threatened by persons believed to be associated with the growing of marijuana. We also received reports of approximately 150 situations where Forest Service employees were threatened by persons suspected of protecting marijuana crops.

Some very serious confrontations have been encountered between marijuana growers and users or employees of the National Forest. In California this summer, a forest visitor observed a "trip wire" across a forest trail. The visitor stepped over the wire and reported the situation. Subsequent investigation revealed the trip wire was set to release an armed hand grenade a few feet from the trail. Nearby was a marijuana garden of several hundred carefully cared for plants.

In Arkansas, a Forest Service employee was threatened by a masked individual in camouflaged clothing who was armed with a shotgun. The gunman ordered the employee to get off "his mountain." Subsequent investigation led to the discovery of a large, well-tended marijuana garden. Ultimately, cooperative efforts led to the eradication of over 10,000 cultivated marijuana plants on that National Forest. These plants had an estimated wholesale value of over $20 million.

We have also found that public resistance to intensive forest management activities such as timber harvesting and wildlife habitat improvement, is frequently high in and adjacent to the areas where the cultivation of marijuana is known to exist. We suspect some of this opposition is because intensive forest management results in larger numbers of employees and contractors in a given area which represents a higher risk to the growers.

It is important to clarify the legal situation that applies to National Forest System lands. Nearly all of the National Forest System lands are in proprietorial jurisdiction. Proprietorial jurisdiction means the Federal Government has acquired some right or title to the land, but the States and local governments retain jurisdiction and authority to enforce State and local laws. The State and local law enforcement agencies have the same authorities and responsibilities on the National Forest System lands as on any other lands in their jurisdictions. Violations may be investigated by either local, state or Federal agencies with authority to initiate investigations involving narcotics of other controlled substances. In the case of marijuana grown on the National Forests, the proper Federal agencies are the Drug Enforcement Administration which has traditionally had this authority, and the Federal Bureau of Investigation which was recently granted authority to investigate controlled substance cases. This authority does not extend to the Forest Service. The Forest Service does, however, have authority to enforce laws and regulations governing the use of National Forest System Lands. Violations of regulations promulgated by the Secretary of Agriculture are punishable as petty misdemeanors with maximum of 6 months in jail and $500 fine. Since marijuana is cultivated on wildlands with complex combinations of ownerships, within and adjacent to the National Forests, we believe that the current jurisdictional situation is appropriate.

As previously stated, the Forest Service is not charged with the responsibility of enforcing the controlled substance laws nor is it appropriate to consider granting increased authority to the Forest Service in this area. Our employees are neither trained nor qualified to initiate independent actions aimed at the enforcement of controlled substance laws. Our employees can, and commonly do, provide support for enforcement activities on the National Forests under leadership and direction of appropriate Federal, State or local controlled substance authorities.

The Forest Service believes the issue of cultivation of marijuana on public lands is serious and demands aggressive action. The Forest Service cannot tolerate possible injury to users of the National Forests or to our employees. It is also essential that we resolve the conflicts between marijuana growing and the ability of our land managers to meet the established renewable natural resource management objectives. The appropriate agencies have met and are working out plans for resolution of the problem.

The role of the Forest Service is to cooperate with the appropriate local, State and Federal agencies to aggressively reduce the number of successful marijuana growing operations on National Forest System lands. Our role is to identify and report marijuana cultivation sites and related activities on the the National Forest land and assist the enforcement agencies in the eradication of marijuana plants under their leadership.

Mr. Chairman, this concludes my remarks. I would be pleased to answer questions you may have or furnish additional details.

STATEMENT OF ROBERT F. BURFORD, DIRECTOR, BUREAU OF LAND MANAGEMENT, U.S. DEPARTMENT OF THE INTERIOR

I appreciate the opportunity to appear here today to discuss a very serious problem which has been increasing rapidly in recent years—the cultivation of marijuana on the public lands.

Much of the public lands are unpopulated and often remote. These factors and the climate and soil conditions in the western states have made the public lands administered by the Bureau of Land Management in those states particularly attractive to marijuana growers.

It is difficult to assess the total acreage of Federal lands involved in marijuana cultivation, primarily because of the clandestine nature of such operations. When marijuana growers first began operating in California and Oregon, their plantations were rather large, usually containing 2,000 or more plants. However because of aerial surveillance techniques adopted by law enforcement agencies, growers have attempted to avoid detection by reducing their plantings, sometimes to groups of 300–700 plants, sometimes to 40–50 plants grown along streams with scattered patches containing 10–15 plants. While acreage figures are not available, one can estimate the extent to which public lands are involved by comparing the total value of State's crop with the value of marijuana confiscated from public land. For example, the annual Oregon marijuana crop has been estimated to be worth over $400 million. The Oregon State Police has estimated that 40–60 percent of the marijuana produced in southwest Oregon is grown on BLM land. And from April to September 3, 1982, the Oregon State and local police seized 5,767 plants on BLM lands in Western Oregon. Those plants had an estimated street value of $8.6 million. The problem is significantly worse in California where the estimated value of the annual marijuana crop exceeds $1.2 billion. In 1981 the California Department of Justice seized 151,000 plants, totaling 98 tons of marijuana from 100 plantations. Those seizures comprised approximately 50 percent of the known crops. In 1982, to date 89 plantations have been discovered in Humboldt County and 155 in Mendocino County. Eighteen plantations were found in the King Range which is a Congressionally designated National Conservation Area managed by BLM. In a raid on just one of these plantations, over $600,000 worth of marijuana was seized within one mile of one of the most beautiful, pristine beaches in the country. Other States containing BLM lands which have a relatively large marijuana industry are Washington, Arizona, Idaho and Colorado. The problem is less significant but exists nonetheless in BLM-managed areas in all the western States.

The techniques used in the illicit production of marijuana on public lands endanger both the environment and the natural resources on the lands. The environmental hazards occur as a result of the growers' use of arsenic to control rodent damage to their crops. The effects of arsenic residue extend to a much wider area due to raptors and other animals in the food chain. In addition, there is a potential that the arsenic could leach into the groundwater and affect domestic water supplies.

Other environmental hazards result from the high concentrations of nitrogen that the growers use as fertilizer. The over-balance of nitrogen and the resulting over oxygenated water in streams has had and adverse effect on marine life downstream from areas where high nitrogen content fertilizers are used. Other practices of the growers, such as the cutting of timber and shrubs and the use of fire to open areas for cultivation, have been both the direct and indirect cause of fires on public lands.

While environmental and resource damage is important, the most significant and devasting threat is to the private individuals and groups that look on the public lands as being open and generally safe for hunting, fishing, family recreation and camping purposes; to BLM and Forest Service personnel responsible for on-the-ground land management; and to other users such as ranchers and miners. In an effort to protect the valuable crops from being discovered by either law enforcement authorities of passers-by, marijuana growers have resorted to intimidation, threats and violence. BLM employees have not only been threatened with rifles but have actually been shot at. In addition, booby traps constructed of pipe bombs, hand grenades, mines, shotguns, and punji stakes have been discovered, as have other traps such as fish hooks suspended at eye-level. Tires on cars of BLM employees and Sheriffs' deputies have been punctured, threats have been made to shoot down helicopters, and threats have been made to BLM employees and their families.

These violent activities have to some degree accomplished what marijuana growers are seeking—to be left alone. Potential informants are afraid to speak and BLM employees are reluctant to venture into remote areas to conduct Government business. And the legitimate public land users—who after all own these lands—view them as unsafe and also stay away.

However, State, Federal, county and city law enforcement agencies have begun to pool their efforts to combat the problem. The Drug Enforcement Agency (DEA) is the Federal agency primarily responsible for dealing with controlled substances. DEA's efforts are generally directed to "hard" drugs, such as heroin, but it has made some contributions to the local efforts to curb the spread of the marijuana industry. In California, BLM has had exceptional assistance from the State Bureau of Narcotic Enforcement. At the local level, BLM, like the Forest Service, has traditionally been seen as resource managers, and we want to keep it that way. Our approach is to work with the local law officers at this level, to make raids and take other legal actions.

Unfortunately, control of marijuana is expensive. Once a growing area has been detected and search warrants obtained, a team of law enforcement officers is needed to secure the area, seize evidence and contraband, make arrests, and transport marijuana to a place where it can be safely destroyed. Ten to 15 officers, and frequently more, may be required to raid a large plantation. Some jurisdictions use "SWAT" teams to secure an area before attempting a raid. Many Sheriff's offices do not have sufficient human resources to raid plantations and provide essential services to counties. Because marijuana plantations are widely dispersed and are often in remote areas, aerial surveillance is required to discover plantations. Because of the expense involved in such activities, we are planning to ask other Federal and State agencies, such as the National Guard, to lend their assistance.

The initial law enforcement efforts have been encouraging, but more needs to be done. BLM's California State Office is developing a coordinated program that includes detection, employee awareness, public awareness and a law enforcement strategy. It will serve as a guide for Bureau actions that are appropriate for BLM employees and special agents in California and elsewhere.

We are developing public information material that will let the general public know how to conduct its activities in a safe manner, if they encounter a marijuana plantation, and will explain BLM's policies regarding the unauthorized use of public lands. This program will put the spotlight on this illegal activity and the tactics used by growers and will let the public know we are aware of such activities and are trying to combat them.

The programs initiated by BLM offices in California and Oregon are just in their formative stages. More planning, coordination, and effort are necessary before any appreciable results are realized. While the present hazards associated with marijuana plantations on public lands are significant, they are not insurmountable. We believe that a moderately sized detection and enforcement effort, together with an effective public information program, will go a long way towards minimizing the present problem and curtailing the growth of marijuana on the public lands in the future. However, it is not a one year effort. These people will come back to the public lands again and again each year unless we are prepared each year to stop them. Be assured that we will cooperate to the fullest with other Federal agencies as well as with State and local authorities in efforts to combat this problem.

That concludes my statement. I will be pleased to respond to any questions on this subject.

[The following material was inserted by Ed Rosenthal, see p. 36 for oral reference.]

THE UNIVERSITY OF MISSISSIPPI,
RESEARCH INSTITUTE OF PHARMACEUTICAL SCIENCES,
SCHOOL OF PHARMACY,
University, Miss., April 5, 1979.

Mr. ED ROSENTHAL,
P.O. Box 477,
San Francisco, Calif.

DEAR ED: From the interview, I find I am so relaxed around you and you are so well informed about Cannabis that I short circuited some of the issues. My corrections are mostly to reflect what we were discussing more accurately. You did an excellent job.

Ed, I have not looked over the contract but will do so on or about the 18th of April.

Regards,

C.T/GW.[1]

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[1] Typed from dictation in Dr. Turner's absence.

Interview With Dr. Carleton Turner, University of Mississippi, Research Institute of Pharmaceutical Sciences

INT. What is the relationship between you, the government, and the university?

CT. I am an employee of the Research Institute of Pharmaceutical Sciences which is located in the School of Pharmacy at the University of Mississippi. The Research Institute was created in 1964 by an enabling act of the state legislature. Our job is to enhance the economy of the state of Mississippi through the pharmaceutical industry. It is the only institute that I know of anywhere in the world that is funded as a line item from the state legislature, is housed in an academic department and is really dovetailed with academia.

Each member of the University staff must do research, since RIPS has a mandate to enhance the state's economy through research.

As my own private research I have been involved in Cannabis since 1970. I am also involved in ethnic cosmetics as a pharmacognosist, which is a person interested in drugs of natural origin.

I also have an academic title which I don't have reason to use and I'm the Associate Director of RIPS which means I am responsible for funding and executing in-house research programs.

This defines what is happening in Mississippi. My relationship with the government is that I am strictly a contractor and a grant holder from NIDA. I have a protocol which I must execute and I must run this in the most economical way feasible to save tax dollars.

INT. What is the purpose of the current grant?

CT. The current grant is the separation of nitrogenous compounds from the Cannabis plant. It is funded by NDIA. The grant originally was for $21,000 or $22,000. We've found several nitrogenous compounds: hordinene, which is a betaarylethyl amine. It's not unheard of in plants but we didn't expect to find it in Cannabis. Then we found two compounds of a totally different structural moiety. They're spermidine type alkaloids and it is the first time they were known to exist in higher plants. One of them is called cannabisativine and the other, hydrocannabisativine. These are interesting in the chemotaxonomy of the Cannabis plant.

Since I have a contract from NIDA, I say, if I'm going to talk about something that someone else has sponsored, the people who sponsor it ought to know who I'm talking to, and I have to be responsible for everything that I say. Not that they're going to tell me what I can say, they've never, I have never had anyone in the federal government say that you can't publish this or you can say this. I have never had anyone at the school or RIPS say you can't do this, you can't do that. But I have always tried to be honest and tried to be considerate of other people's feelings, and tried to be scientific, instead of trying to be a promoter or a crusader.

INT. What is the purpose of the program you are involved in?

CT. The purpose is to provide the National Institute on Drug Abuse with a standard grade of marijuana for research. When we say standard grade of marijuana it is one that we know the content of within analytical limits.

There are a total of 61 cannabinoids known, so there are many cannabinoids we know very little about as far as analytical methods are concerned. This doesn't mean that the batch we prepare today for a research purpose will be the same 3 years from now.

We give the best defined material available to NIDA and the research community. Also this material is used by the UN narcotics laboratory, so it goes all over the world.

We are primarily here for this part of our program.

To execute and accomplish this, you must have a growing facility, some good analytical support facilities, isolation-separation facilities and the ability to export and import to get variants from different geographical locations.

INT. In any given year do you provide more than one standard grade?

CT. We have a Mexican variant which is our standard drug type. Mexican variant from location A is not the same as Mexican variant from location B, but the one we're using is the one that was selected in 1968 as the drug type. We've been extremely satisfied with it. We've grown the Mexican since 1968 and we haven't seen the deterioration of potency that people talk about. The drug type is the one that all the NID's are operating under. When you talk about Mexican there's only one variant that has an IND.

INT. An IND?

CT. An IND is an investigative new drug application.

INT. How does this variant rate in THC content?

CT. Delta-9 THC content is something that you can't put your finger on. You can go out and take a sample and analyze it and say, this is Mexican, it has 2.1 percent THC. That tells you the analysis of one cannabinoid out of a total of 61, out of a total of roughly 360 odd chemicals in the plant. We can produce a good drug, marijuana, from this Mexican variant. It is as good as you will get without going through a great deal of sophisticated agricultural procedures.

We have to provide a particle large enough to make a cigarette. (Using) some of these sophisticated agricultural procedures you get very small particles sizes which you can't make into a machine cigarette; a standard cigarette; so we have to work within variables that the illicit marketeer never wories about.

INT. You mentioned 61 cannabinoids. How many of these have been found to be pyschoactive?

CT. Of the 57 cannabinoids that we know, Delta-9 is psychoactive in man, Cannabinol (CBN) is not as potent as Delta-9 but still psychoactive. The C-3 homologue of Delta-9 called Delta-9 tetrahydrocannabivarin is approximately one-third as psychoactive as Delta-9. Then there are a series of hydroxylated compounds which occur in the plant that we have not been able to isolate until recently. They are probably decomposition products from Delta-9 going to CBN. If you look at the stereochemistry of those and the stereochemistry of Delta-9 you say, ah, these should be psychoactive drugs which I think some definitely will be, but we haven't had any experimentation on these compounds.

No one really knows the role of cannabichromene. We recently published a synthesis and are filing a patent application on the synthesis of cannabichromene. Once that is established, maybe more work will be done.

INT. People often say that different varieties of Cannabis give different highs; speedy, work-oriented, laid back. Would you say that the interaction of these different cannabinoids relate in some way to this?

CT. Your've got to take into consideration the interaction of the cannabinoids. We know that cannabidiol (CBD) antagonizes and cannabinol potentiates some of the effects of Delta-9. We don't know what kind of effect cannabichromene has on Delta-9 but all potent drug types contain it and rarely if ever contain any CBD. These are just four cannabinoids we're talking about. The research that has been done is primarily on Delta-9 or Delta-8 or some of the synthetic cannabinoids, so you've got to go back and look at the plant material, this crude drug. Marijuana is not a plant, it is a crude drug from the Cannabis plant. If we take this crude drug and roll it into a joint, the amount of the drug quality or the amount of the cannabinoids coming through the smokestream will depend on the compactness, porosity of the paper, humidity of the material, the particle size, and puff volume. These are the five main variables. So, as you get a different joint, you have a different ratio of these cannabinoids. When you subject that to the pyrolysis process, you have a much different (ratio). I would expect the different marijuanas to give different highs, just as I would expect to go out to a single Cannabis plant, select a sample at 8 in the morning, process it into marijuana. If I go out at 10, to the same plant I'll get another marijuana. And I would expect those two to give you a different grade high.

You see, the cannabinoids are a unique class of compounds in nature and they are very hard to work with. I think we're probably the only people that have done a lot of extractions (to) see what are the conditions in which you get the most cannabinoids out of the plant. Analytically you have to be very careful about using an internal standard and response factors. The response factor is how much do you actually see coming through the detector in regard to what you really put in. People assume cannabinoids have a response factor of one. That's not the case. The concentration of the cannabinoids varies, and the response factors will vary slightly. This is the reason you're going to see a great dichotomy in the literature.

In one paper they used an external standard and misidentified several cannabinoids. They have a paper where they classify Cannabis into phenotype 1, 2, 3, and 4, which is totally useless because the analytical data used to design that system is erroneous.

INT. What do you think the future of marijuana will be in America?

CT. I'll be happy to give you a scientific opinion based strictly on the facts as I know them.

If you look at what is in the literature today related to marijuana, you don't have a very optimistic future. That doesn't mean the illicit market is going to go out of business. But let's forget about the illicit marketeers and look at this crude drug, marijuana, and put blinders on, and just say we're going to go down the middle of the road and see what we know about this crude drug.

First of all, there are over 6,000 papers in the literature. Now of these 6,000 papers, most do not deal with marijuana. They deal with synthetic cannabinoids.

However, certain individuals, organizations, agencies, etc., have tried to extrapolate the data and say that the cannabinoids are the same as marijuana. And there's a lot of misinformation about marijuana in these 6,000. In these 6,000 papers I can support any conceivable idea you may come up with. That marijuana will do, or that cannabino will do. Let's now forget about the cannabinoids and run back to the crude drug, marijuana.

Marijuana, by definition, is the flowering tops of the female cannabis plant, according to the Single Convention. It also includes the dry leaves. That crude drug can contain over 360 known chemicals. That crude drug is barred from being legalized by the Single Convention on Narcotic Substances of 1961, which President Johnson signed in 1967. And I'm not saying you can't do away with International treaties, that's not my point. I'm saying it's there.

The second thing is that marijuana has to meet certain guidelines to get on the market. You have to go through an IND and then a NDA (new Drug Application). Only one variant of marijuana, that is, the Mexican variant, is even in the IND stages.

Another problem that I see, or another possibility, is what about the Delaney Amendment. Nobody has bothered to investigate the Delaney Amendment. Look at the cyclamates. In the late 1960's one article says that cyclamates cause bladder cancer in animals. Three hundred papers since then have not been able to duplicate that, and yet cyclamates are still not on the market. We know that there are more cancer causing agents in the smoke of one marijuana cigarette than there is in one tobacco cigarette. The smoke from one marijuana cigarette when painted on laboratory animals will cause cancer, so there's a statutory bar against Cannabis by the Delaney Amendment.

The new cosmetic law states that you've got to list the most prominent compounds in decreasing order, and on everything less than 1 percent you've got to list in a group. Well, how can you do that with the crude drugs from Cannabis? Are you going to delineate the 360-odd compounds?

The next thing is you must have shelf-life stability on any drug before it goes to market. But cannabinol changes over a period of time. And as these cannabinoids change, the quality of the drug changes. Now I'm not saying you can't make a plus or minus criteria, but this is an inherent problem which must be solved before you can ever bring anything on the market.

Before you can put an intoxicating substance on the market, you've got to be able to determine the level of intoxication of a person operating a motor vehicle or anything else that will put a person in danger. People say you in the scientific community ought to have that. We don't have it, contrary to what people say. It's not there. With the radio-immunoassay, you can pretty well delineate the concentration of the cannabinoids that are in the bloodstream, but cannot quantitate only THC or state the level of intoxication. These are just problems that have to be addressed, that have to be looked at, before you consider the future of marijuana.

The future of marijuana as a crude drug I see is very, very bleak. I'm not saying that some of the compounds of the cannabis plant, their homologues or their analogues, may not be used by society. In its medical applications to disease states, I wouldn't say that at all.

INT. The question is, even with all the laws such as the Delaney Amendment, if Congress decides that it does not want the loss of Cannabis it can just pass a law saying Cannabis can be grown for home cultivation or for commercial use, or whatever, and since Congress makes the laws, it has the power to change them.

CT. That I would not disagree with.

INT. But you don't think they're going to.

CT. I don't think they're going to because I think the trend is now, if anything, if you look at the scientific literature, not the lay press; things coming out make you stop and think, what are we doing, let's look at this strictly on a scientific level. And before you can do anything with it, the thoughts we just discussed have to be addressed. Now I would be the first to say that if every swinging soul in the United States wrote their Congressman tomorrow and demanded that some of these things be exempt from the law, that it would not happen. But in my best judgement, I don't think that will happen.

INT. Do you think it will be decriminalized on a state to state basis?

CT. I think there's de facto decriminalization in most states.

I have quarreled with the word decriminalization; I think it's a bad choice of words because, to the average person, it means that you remove the criminal penalties. But in effect you're not removing the criminal penalties. Most of the state laws that I'm familiar with have reduced the penalty on the low end and raised the penalties for the smugglers or the big time operators. I personally feel that reducing

the penalty for the kid with one joint has not been a bad idea, and I was for it in Mississippi. But I was also for the guy dealing in hundreds of pounds to go to jail.

INT. What about the home gardener cultivating for his or her own personal use?

CT. The home gardener is an individual within himself or within themselves. How they handle it is up to each State; I'm not trying to make policies or make decisions. I'm just saying that, knowing what I know about that crude drug, I would hate to see it ever happen, that we have home-growing of Cannabis to produce the crude drug, marijuana. I'm afraid they will go from marijuana to liquid hash, and a combination of more things. As you apply physical, chemical or heat methods to process the Cannabis plant, you alter the chemical constituents, so the data on marijuana is not the data on Delta-9, is not the data on hashish. So I have a terrible fear as a scientist on what would happen there.

INT. In California the buds may go for $100 an ounce and the leaves for $100 a pound. Those leaves may contain ⅓ to ½ the THC grown on the plant. It's only a matter of time before people start using it either as a ghee, or in cookies, or something like that.

CT. When you take it orally you've got a different drug than when you smoke it, you have metabolism occurring in two places, the lung and the liver. The metabolites in the lung are much more potent psychomimetic agents than the metabolites in the liver. This is one of the reasons people can get a much higher high on smoking a small amount than eating a much larger amount and these effect the body differently.

I'm fearful of the increasing potency, of the concentration of the cannabinoids in the tissues of the body. These things bother me as a scientist. But each individual has to make up his own mind what he wants to do. I don't believe the government should say, here it is, available to everybody, use it as they want to. But I don't really know what the proper position is right now. I know we don't have enough data to say that marijuana is an innocuous drug.

INT. We can't only take it from a micro-level, we have to take it from a societal level.

CT. You have to take it from the total scientific spectrum. In science you can't cut one layer out. You have to look at it in context to what it is doing to the human organism and what it is doing to society. My point is very basic. It is not an innocuous drug. Look at tobacco.

We know if we smoke *x* amount of tobacco cigarettes a day, the chances of us getting lung cancer are *x* percent increased over the guy who never touches a cigarette. But I'll challenge you or anyone else to find me any sociological data, or any other kind of data, prior to WWII that would link tobacco smoke with bronchial carcinoma. It did not exist. And now look at the people dying of lung cancer.

We know that cannabis smoke contains as many carcinogenic compounds, more, than a cigarette. We know that in our society people smoke several joints a day. We also know that as they grow for their own use, they're going to get more potent material because of the tolerance, so there are some very intrinsic problems. I do not want to say that sociological studies are not significant. But when you do sociological studies, you've got to do studies on the base of how the people in our community use it, not how they do it in Jamaica or how they do it somewhere else.

INT. What are the long-term effects of occasional and heavy marijuana use?

CT. I don't think anyone knows in the society in which we are operating today.

INT. What do you think of the future of Cannabis as a fibre or pulp plant?

CT. If you could find a variant or breed a variant that contains no cannabinoids, then there is a distinct possibility of having a cash fibre crop. There are several groups working on this. Several years ago, when I came into this field, I was told that the genetics of the plant determines the cannabinoid content over the environmental conditions. But I have since seen that the environment plays a role. You will never see a fibre type that comes from a drug type and you will never see a fibre type become a drug type due to environmental conditions. But the ratio of certain cannabinoids will vary according to the climactic conditions the plant is subjected to.

If you can ever overcome that you might have a product, but the Czechoslovakians are even finding out that if you take their fibre type and follow the procedure we published some years ago and you take samples over a twenty-four hour period, then you can produce a good drug quality from a fibre type if collected at the right time.

INT. What do you think of Paraquat and the Paraquat program?

CT. I think the government got a bum rap. I'm not saying it was rightly or wrongly initiated because we in this country must understand that we cannot influence nor tell other governments of the world what they can do and what they can't.

INT. We're funding the program.

CT. We're funding a lot of programs. But the funding is not my responsibility. You asked me what I thought about Paraquat. Paraquat has been around since the early 1950's. It's licensed and produced and distributed in this country by Chevron Chemical out on the West Coast. Paraquat has been looked at as a preemergent herbicide, and as a dessicant to destroy Cannabis. In the early seventies a group in Israel published a report showing the scientific validity (of using paraquat) if any government wasts to eradicate Cannabis.

Now Mexico could have picked Paraquat with or without the help of the United States. All they had to do is read the literature. It's there. Now the Paraquat issue is one that we in our way created. We tried to keep a very low profile in it, which I found out later is impossible. But this was brought to the forefront by certain politicians and certain people interested in the health of America, and we all have to be interested in the health of Americans. In June of 1977 I was in Mexico, and I talked with the people in the appropriate places regarding Paraquat, and how it was being used. At that time certain legislative individuals, bodies, etc., were interested in finding out if Paraquat actually existed on Cannabis being sold in illicit markets in the U.S. We decided that this is our area of expertise, so we put in a contract proposal to NIDA, which they funded. It was a very small amount of money. Then we took the Chevron method for determining Paraquat and we modified it to work with Cannabis.

We then started screening samples of seizures coming out of the DEA's laboratories that were of Mexican marijuana. We found that, unlike theory, some of the samples coming into this country did contain the herbicide Paraquat. In theory, when you spray the Cannabis plant with Paraquat, it should kill the plant and be decomposed by sunlight. Theory doesn't always work in reality. The reality is you spray a large plant with Paraquat, and you're not going to totally kill that plant, and the Mexicans learn to wash these plants off. Our theory that plants would not survive long enough, Paraquat would be decomposed and you wouldn't have a commercial product and it wouldn't get into the U.S. fell by the wayside. It did get in, and the parts per million were rather high for the initial values. Then we saw a gradual dimunition in parts per millions.

The problem is, once the Paraquat actually penetrates the leaf wall and adheres in the cellular compactness of the plant, you have to totally destroy the cell wall to release the paraquat. This caused a great deal of controversy in the lay laboratories. People claiming, "I can wash it off with water, sodium carbonate," but the fact of the matter is, even with boiling normal hydrochloric acid, you can't get all of it out.

Then in December of 1977 the White House issued a report and all of a sudden we started having . . . after 1978 came in, a news media blitz on Paraquat. After NORML filed suit against the federal government, it was like a steam engine building up steam and coming downgrade.

I think NIDA, from what I saw, geared up faster than any federal agency I've ever worked with to do this work, and they did a lot of work, very fast, with a small amount of U.S. dollars involved.

When you get into this health thing you have to look at what marihuana does to the lungs, with or without Paraquat. Now, Paraquat has never been smoked before. So the data on oral ingestion, or accidental poisoning, doesn't hold for smoking. And there's lots of data in the literature that show that paraquat decomposes on smoking, and this is what the group at NIDA found.

We were asked to look at some samples that were determined by a West Coast laboratory as containing Paraquat. When those samples came in I laughed, these samples had never seen Mexico, they were obviously homegrown materials (Sinsemilla) very strong odor, which meant to me that it hadn't been harvested too long, they still had the mono terpines and di-terpenes. The individual that was smoking these samples was smoking three to five joints a day and was having lung problems, and they said this must obviously be a case of Paraquat toxicity. We analyzed it at over 6 percent THC, some of the most potent stuff we've ever seen. All of these mono and di-terpenes, these volatile components are irritants. You take all these irritants in the lungs three to five times a day, with that potent material, and you're going to have lung problems. In fact, in 1970, after harvesting we processed the material inside a building because it was raining outside. We had to take four workers to the doctor with acute bronchitis. You've got to look at what a potent dose of cannabinoids would do to the lungs.

So I wrote back and said, "I can tell you absolutely it contains no Paraquat." It contained no Paraquat down to one part per million. It was a very potent preparation and when the patient finds out what it is, he has a miraculous recovery. You take him off grass. Several samples like this, where it was reputed to contain Para-

quat and to be toxic, we found none. Now that's not to say that over the long period of time, there may not be some. All I can say is we didn't see any, but there was more paranoia engulfing this country about Paraquat that we said, as good citizens in the scientific community, let's see what we can do. So Dr. Elsolly and myself one Friday evening worked to, and developed a relatively simple kit for the determination of Paraquat. We licensed the kit and this is where we stand.

INT. What kit is that?

CT. It's the Paraquat Analysis Kit, which really has not been promoted, and I'm not in any position to promote it; we filed a patent on the procedure, it's a patentable process, and we're now negotiating with several firms to look at edible crops that are sprayed with Paraquat, and marijuana was just a mechanism whereby you could do that. We can get it down to less than one PPM. Paraquat a good herbicide, it kills Cannabis when sprayed properly. I feel the Mexican government can spray anything they want on Cannabis.

INT. Have you had any contact with tobacco or liquor companies?

CT. No. No contact. I think this is something that people have built up in their minds. What most people have failed to realize is that in this country you don't get a trademark until you have a product.

INT. Do you think that they have fields standing?

CT. I doubt it. If a tobacco company is investigating Cannabis in detail, I think they would back off doing anything until there were policy decisions.

INT. Do you see yourself as working for commercial agriculture should it be legalized?

CT. I don't think it will ever be legalized and I don't see myself working for agriculture either. I have enjoyed the years that I've spent at the Research Institute; I've worked with a lot of great people in all variations of life and I enjoy a farming operation. Each person has to decide what it is they want to do in life, and I decided a long time ago that I didn't want to be involved in commercial agriculture.

Research Institute staff people know more about Cannabis than any place in the world. We have something that's valuable to the scientific community, and I'd like to keep it strictly on a scientific basis.

INT. Have you visited any marijuana growing areas or illicit fields?

CT. Yes. Sometimes, in order to get what you need to do a research program, you have to participate in certain things, and I don't intend to elaborate here. And on certain occasions I have agreed to do certain things for a certain thing. I have had an opportunity to see certain preparations of Cannabis being prepared for the illicit market. I have not been involved in it. It was strictly from the legal end, and I was strictly legal in what we were doing. We don't do anything that even slightly tinges on illegality. I've seen Cannabis growing in South Africa and in other places. In all those cases we have brought back seed from the variants we saw growing and planted those seeds to study them.

Our interest is strictly from the scientific point of view—to make as much data known about the Cannabis plant and the crude drugs from it as possible.

We also look at samples from large seizures and keep a great deal of data on this, which also makes it valuable and obtainable by NIDA so they know what's on the street, because if your experimental programs aren't correlated and coordinated with what's being used on the street, you're really not doing any good.

INT. What do you think of Reese Jones' experiments, where he's giving people tremendous doses of THC which don't really correspond to what's happening?

CT. Can you say that?

INT. Yes. I have experience with the underground culture, and he's talking about much more than the heaviest smoker that I've ever seen. Even when I've known people dealing in hash-oil, they don't use as much as he's giving his people.

CT. You don't know what's in hash-oil until you analyze it. I've seen hash-oil go from very small amounts of THC to up to 40 percent THC.

And the other thing is a lot of scientists have been criticized for the dosage they are giving. But there is a tremedous problem here. Smoking is the worst possible way to get a dosage form of any drug into the organism.

One researcher will tell his people, smoke this, you'll get a pleasant high. (He will) never quantitate the blood, never know how much is getting in, because until recently you couldn't do that. Another researcher will say, "I want you to smoke this in toto, because that's the only way I know you're getting what you get." Well, a 2 percent cigarette, 1 gram, will contain 20 milligrams. When both of those researchers publish their data, and you can get anything you want published on marijuana, you may have to look around to find a guy that wants to make a quick buck, you may never get it published in a scientific journal, but you can get it published. And once you get it published it's quoted as law, and it's very difficult to change the

opinion once it gets in print. A guy that says, "Smoke it, you get a pleasant high," is not going to find the same change in respiration rate, blood pressure, or pulse rate if there is a change, than the person who makes them smoke all of it. The lay, and even the scientific, community then says one of these guys is wrong. In reality both are correct according to their methodologies. But you have to take into account which methodology is correct.

Until I see the data and until I see how it happens, I have seen a lot of people that have been getting tremendous criticism off their dosage range, when I looked at the data, they were all getting very small amounts.

INT. What do you feel are the dangers of marijuana as compared to alcohol?

CT. There is a very different profile when you look at alcohol and Cannabis. The body can handle alcohol quite rapidly. About one ounce per hour for the average person. And in a few hours it's totally removed for the system. But the cannabinoids have a long staying power. For example, if you give a naive subject one joint, after a period of 56 hours there is going to be at least a half of the cannabinoids still in the system and after a period of 8 days you can still find the cannabinoids.

The cannabinoids are totally insoluble but they are infinitely soluble in the lipid proteins of the body. Which means they are stored in every major organ including the brain. This means that after a long period of time there's going to be a residual amount of Delta-9 and other cannabinoids, mostly other cannabinoids.

If you only smoke one joint, and you don't smoke any more for a while, it gives your body an opportunity to sort of purge the system. But if you keep loading that system up, with three or four joints a day, one has to be concerned knowing that the cannabinoids are stored in the brain and other places, over the long-term effects—not over the subtle differences of 90 days, that is ridiculous, but it is done every day. So my concern is basically over the long haul.

INT. Is somebody who has smoked for 20 years going to have so much in their system that they are never going to get rid of it?

CT. No one really knows. We're participating in a long-term study. I have a deep-seated fear for long-term use.

INT. Does a nursing mother transfer the cannabinoids through the milk?

CT. There's a paper that was in the Journal of Toxicology which shows that there are a lot of problems. Your milk has a lot of lipid protein type material and a lot of fat, and if the cannabinoids were to be stored this would be one place. If a young lady is smoking a lot of grass and she is nursing a baby, it's probably going to have cannabinoids in the system.

People say that marijuana causes birth defects. There have been no really good documentation of birth defects using marijuana, but there have been documents of embryocidal effects, which means that the embryo was reabsorbed. This indicates that the cannabinoids do interfere with the reproductive systems of the body. It is now looking very strongly that it is more acute in the male than in the female. You see some testicular degeneration with CBD. CBD is one of the most abundant cannabinoids, particularly in hashish and some forms of marijuana. So as these cannabinoids are brought and stored in the body, and the child is going through a normal development, there is more than an average chance of problems over the long haul.

INT. Do you feel that "storage" has an effect on people's consciousness post intoxication?

CT. I don't really know. My gut feeling is that here is an organic molecule that is foreign to the body and the body has to even produce special enzymes to metabolize it in the liver and elsewhere, so there are some very unusual features of these molecules. Why are they psychotropically active, why will one of them with a slight nuance of stereochemical difference will be inactive? And then take all the other cannabinoids. If you smoke a joint that's got 2 percent Delta-9 THC, that's 20 milligrams of THC that you could possibly get, but you're also going to get a few milligrams of CBN or CBC and a lot of others are going to be there in smaller amounts. When they get into the system what happens to these? They all have very pronounced lipid solubility. So you have to ask yourself, what happens in the long period of time?

In some experiments you can load the system and antagonize some of the effects of Delta-9. Is that a real antagonism, or is it a competition for receptor sites? Or is it overloading the enzymatic system that will metabolize CBD and let Delta-9 go? Does it mean that CBD has something to do with hydrogen bonding? I don't really know and I don't think anyone else has hard data.

INT. Do experienced marijuana smokers metabolize Cannabis in a different way than inexperienced smokers?

CT. They have a lot of enzymes in the system that can handle it. I don't think anyone has isolated the enzymes that are responsible.

INT. Have long-term changes been noted in the brain synapses of marijuana users?

CT. Drs. Dick Gary and Bob Heath in New Orleans did some work on the monkey brain, and in every animal that had Cannabis or Delta-9, they saw some problems in the synapses and in the brain. That is pretty hard evidence, and if that were a drug on the market, it would be pulled off immediately.

There are also some changes with chronic smoke in the electrocardiogram.

INT. Do you think that marijuana changes motivation?

CT. Some people say that the a-motivational syndrome is only a syndrome with those people doing the research. But if you talk with the people that work with Cannabis, marijuana, the cannabinoids, they will tell you that everything is dose dependent, as with any drug. I think it has a lot to do with the biochemistry and maturity of the person involved and a lot of other things.

INT. Do you think that the government can enforce the marijuana laws?

CT. Enforcement of the laws is something that society wants one day and something society does not want the next day. It will be extremely difficult to enforce the laws of this country on the use of Cannabis. On the other hand, if the penalties were so severe that the use would not be worth the consequences if you were caught, you would reduce it. But as an objective individual, and knowing that you can grow Cannabis anywhere, I think it would be impossible for the government to absolutely eradicate the use of Cannabis in this society. I don't think it can be done.

INT. If the penalties became so severe, considering that we have a representative society of some sort, I think that kind of law would alienate society as a whole from the government.

CT. An excellent example of that is Germany before WW II. Every power that Hitler had was given him by the legislative body. And everybody says Hitler was a dictator.

INT. I think we have a different experience than the German experience.

CT. Well, regardless of the political implications if it were the death penalty, whether you or I agreed with it, I think that both you and I agree that there's no way that some of the people we know that use it would even touch it with a ten foot pole.

INT. I think that marijuana is one of America's secret weapons in our conflict with the Soviet Union. This could be one of the main things changing Soviet society, changing the Soviet government.

CT. Well, if it would change the Soviet government it's changing our society too.

INT. It certainly is. How do you think it's changing our society?

CT. The value systems of any society is based upon the learning pattern. What you're saying is that we're changing that learning pattern. We're basing our values somewhere else. I think that's where the sociologists have got to come out of the closet and get on with the job of finding out what's happening to our society.

Just as our society in the South has changed, I think any society's going to change, and change for change's sake happens sometimes. We hope it doesn't happen. We hope that we have a better society due to change. But if we study history, and we look at what's happening to our society, we ought to have some second thoughts. If you study Gibbons' "History of the World," it scares you if you look at what's happening to our society today.

INT. I think that society is reaping a harvest of change because of Cannabis and my own opinion is that it has had a lot of positive effects on society. The major change that I see was confirmed in a Gallup Poll. The question was, "What do you consider more important, your business success or personal happiness?" For years Americans had been saying that their business success was more important. Some time in the late 1970's there was a changeover. I think that this is partially related to the experiences one gets on marijuana.

All the psychotropic X drugs, LSD, marijuana, psilocybin, can create a religious experience that's chemically similar to the religious experience that only a few people had experienced before. Everybody who's dropped 500 micrograms of acid has seen God, or their own God. That's an effect that affects a person all their life.

CT. Sometimes very negatively.

The human being has a God-given right to an excellent chance in this society. To clutter up one's thought process and mind with drugs, whether prescription drugs, alcohol or any other thing, is a sad case.

INT. If individual states passed laws decriminalizing or legalizing marijuana, or its cultivation, do you think the DEA would stand still?

CT. I don't know. You'd have to ask someone in the DEA, but I don't see how the government could stand by and watch an international treaty, the FDA Guidelines and the laws of the country, be totally neglected. It would be a precedent setting

thing that would open the door for any drug to go on the market without proper testing, because only one variant of Cannabis is in the IND.

What if the federal government were to say, "We're going to make Cannabis available to everybody." Then suppose ten or fifteen years down the road we had a tremendous increase in neurological problems with young people and they traced that back to Cannabis in the brain? The same people that are pushing for these drugs to be on the market today would then be in their fifties or sixties, and they would be raising more hell with the government because their daughters or their grandsons have neurological problems and it's the government's fault.

INT. Would coffee or alcohol or tobacco pass such guidelines if they had to be put through now?

CT. I doubt it. I can't see how tobacco would stand a snowball's chance.

INT. And alcohol?

CT. And I don't think alcohol could either. Coffee? I don't know.

INT. And sugar?

CT. I think the trend is back to nature, back to natural products over synthetics because of the reduced toxicity. Coffee is already here and I don't know of anyone that died from coffee yet, but a lot of people have stomach problems. But it would not be considered a drug, probably. But alcohol and tobacco, if they were dumped on the market today, cold, knowing what we know about them, would stand a very . . . it would be extremely difficult time getting through the FDA, if they could ever be gotten through.

INT. Do you think that any of the government's programs are effectively informing people about marijuana or keeping people from using it?

CT. It's a difficult task in so much as preconceived ideas abound in the area of marijuana. Because if you're using it, whether it does you any harm or not, if it's a subtle amount that you can't observe daily, you're not going to see it and you're going to say nothing's wrong with this drug, and don't try to educate me about it, because I know more than you. And I've talked to kids sometimes, not with scare tactics, but with just talk to them, and I've had kids say, have you ever tried it?

I have no desire or need to try it. He said, "Well, then don't talk to me about marijuana." The very classical comeback to him is—how many male obstetricians have you seen that have had a baby, and this gives you the attitude about marijuana.

As an organic chemist and pharmacologist, I have learned to have a great deal of respect for chemicals and what they can do with the body, and I never had any reason nor any desire to smoke a joint. I've always wanted to keep my mind clear. I enjoy nature, people, working and doing things with my hands, and when you get into an intoxicated level, whether with alcohol, Cannabis or any other drug, that you are no longer in total control, then things happen to you that later on you may not want to have happen to you.

INT. Do you think that we're going to find in four, five or ten years that preadolescents and adolescents who used marijuana have had deleterious effects from its use during the formative years?

CT. If you take the biological data on marijuana now you have got to be concerned about such.

INT. How do you think that the government's attitude towards Cannabis has changed over the past 3 or 4 years?

CT. I think as the trends go to much more potent material, you're going to find a hardening of the attitude on the federal level and some of the manipulation of the news media by the pro-marijuana people have turned the other people totally against them. The over-zealous attitude of the pro-drug people backfired and I think we're going to see a hardening at the federal level.

INT. What do you think is going to happen in Colombia?

CT. Colombia has for many years in the past been making more money on the export of Cannabis products than it has on coffee. And in developing countries, there is a different political climate. But it is going to be extremely difficult to convince these governments to do away with Cannabis. If our government tried to help the Colombian government, I don't know how people would react.

INT. I've heard two things; they're going to legalize or start spraying. Two conflicting opinions, both from "informed" sources. I've also heard that Jamaica was planning to start legalizing

CT. I don't believe that Jamaica will legalize it. I don't believe there is any politician in the world today that could stand the heat from the other government agencies in the world if they did. And I don't believe the countries of the world would continue putting money into certain funds that are controlled to study drugs if they planned to legalize them.

INT. What are the long-term effects of use of marijuana by pre-adolescents and adolescents?

CT. I can't say what the long-term effects will be. We can only look at what the scientific data has indicated and extrapolate. It is going to have a change, whether that change is going to show up in the second or third generations you can't say, but it will have a change.

INT. What do you feel the cost of marijuana is to society, in terms of people who use it, and in terms of law enforcement?

CT. I don't have any idea how many people smoke grass in the country today. I've seen estimates from nine to twenty-five million. But I don't know if that figure is valid statistically.

I think that some of the costs that I have seen have been grossly inflated. There is a baseline cost of police protection, regardless of whether they are chasing crooks, sitting on their butts, fighting fires or whatever, that's a basic cost.

INT. How did you get into working in this area?

CT. I've got a degree in organic chemistry, as a synthetic organic chemist, working on plant growth regulators in 1970. In 1970 organic chemists were a dime a dozen. I took the only job I found available, which I was qualified for, and was offered, and that was a post-doctoral research associate position in the Department of Pharmacology in the school of pharmacy at the University of Mississippi. I came here with the idea of spending one year learning something about marijuana, and then going to law school.

In 1971 I was asked to assume the responsibility of the project, and I felt at that time as though I was the only one here that could. I accepted it, and it's been a rat-race ever since.

INT. Have your feelings about marijuana changed since you started working with this program?

CT. I think my feelings about the crude drug marijuana have been broadened tremendously. In 1970 people said everything there is to know about marijuana is known. And how wrong they were. But as far as me being scientifically concerned, I have not changed that.

INT. How do you think that Cannabis will be used pharmacologically?

CT. There are possibilities for certain individual cannabinoids, there are some drawbacks. It affects the central nervous system. Secondly, you have a tolerance built up to them.

Some products that may come to the marketplace will not have a name even remotely associated with marijuana or Cannabis, but the idea for the synthesis of these products will have originated from NIDA's total marijuana program. One that comes to mind now is Nabilone, which Lilly has been promoting, but that's not to say there aren't others around. But it's hard for me to conceive of Delta-9, with the side effects that it has, ever being on the market. I believe there will be a product on the market which has structural similarities.

INT. What's your feeling about the ativa, indica, uderalis controversy?

CT. The general scientific opinion is that it is one specie. The Russians would tell you the same and they have no axe to grind regarding court cases. And Schultes in 1970 said it was one specie, since then he's said it's three, and Euboden recently published an article chastising the people of Mississippi because they didn't know what a marijuana . . . cannabis plant looked like. They couldn't tell it from weeds. Well, this was entirely his opinion, but I'm also entitled to my opinion of him.

I have not seen any data from a chemotaxonomy point of view that would say anything other than one specie. If you look at the morphology of the plant (we do not base specie on morphology) you'd say according to the description that's Sativa, Ruderalis, Indica, but I tend to think in terms of chemotaxonomy; when we discovered cannabisativine and hordenine we had two very unique alkaloids and alkaloids are notorious in chemotaxonomy. Then we found a solvent system that would separate anhydrocannabisativine from hordenine and we could look at all three. You can screen all the variants you want to grow, and they still contain these three alkaloids. You can do the same thing with other classes of compounds. If you look at the subleties in biosynthetic pathways you will find certain chemical compounds.

If you take the plant and grow it in Mississippi for a period of years and you take the identical plant and grow it in a very cold climate you are going to see a change in the morphology of the plant. So in looking at the chemotaxonomy of the plant and at the alkaloids and the other types of compounds in the plants, you have to come to the conclusion that there's only one specie.

I think that you will find that the people that have actually worked with cannabis on large scale are of the opinion that it's one specie. We had a group here in Mississippi in 1976 with different professional backgrounds including a classical taxono-

mist, a pharmacognisist and people interested in wood anatomy, the whole spectrum. The conclusion that they came to was that with the present state of knowledge, you cannot subdivide the specie. Somewhere in the wilds of the hinterlands there may be another specie of cannabis. But the people that have said that there are three species do it in the court of law, they do not do it in a scientific meeting where people can challenge their ideas.

INT. Have you ever seen Ruderalis growing?

CT. We have grown sixteen variants of Russian materials compliments of the Soviet government.

INT. Are these the small plants that Schultes described?

CT. Sure.

INT. Will it grow to 2 feet?

CT. Some of it will, depending on where you plant it. If you plant the Russian material at certain times of the year, then in five weeks it's dead and gone, so it comes to fruition fast.

INT. How would you describe a Colombian, Mexican, or Afghani plant?

CT. You can't find a great deal of difference between the Mexican, Colombian, Costa Rican, Panamanian and the Hawaiian. They are all classical Cannabis plants. But when you look at the Afghan plants, they're quite a bit different. They're smaller, bushier, broader leaved, and they have different colors during the growth period. The same thing happens with the Iranian plants, particularly the ones that come from the Caspian Sea area.

The Pakistani is a little bit taller than the Afghan, the leaves not as broad, they are somewhere in between. The South African material doesn't look that much different from the stuff from Australia or Mexico. There is one type of Indian that looks very much like Mexican material. Several other types of Indian that are petite, plants with fragile leaves, and the limbs radiate out from the central stalk in exactly 180 degree angles, and they alternate. Other Indian variants have very unique structural patterns in their leaves. The indentations or the serrations are a bit deeper in some than in others. Some Russian plants have serrated edges, some do not.

The Indian is going to get about waist high, or a little higher. Some of the Russian plants sown at one time of the year get two or three feet tall, planted at another time they grow to five feet. They don't really fit that pattern, which is an indication of a plant that really hasn't settled down; it's in a state of flux.

In Czechoslovakia, Yugoslavia and Poland the plants are more columnar in stature, they grow tall, and they have a lot of flowering tops. They have a tremendous amount of resin, that's very tightly bound. The Turkish looks somewhat like that.

The Nigerian plants are a different type. They have very tiny leaves, the plants do not get that large. Some of the Spanish and French material looks very similar to what you would find in Czechoslovakia or Mexico, and the old-time homegrown stuff out in Kansas-Nebraska. If you give it plenty of space to grow, it's going to look typically like a Mexican plant. It's going to be like a Christmas tree. With the Vietnamese you get a big, bushy plant. Thailand variants you find a lot of monoecious plants. And you find this in one variant of Mexican particularly. Another variant from Mexico has an abundance of male flowers and from a distance you will swear it's a female plant, then you look at it close and it's a male.

INT. Do you think that Ruderalis is basically a wild, weedy, or cultivated plant?

CT. I guess there were only a couple of variants of the 16 we received that would be good for fiber production. The rest of them were more of a wild plant that would get 6, 8, 10, maybe 15, 20 or 24 inches tall, and die. You'd have to say that if all of these are Ruderalis, and I still don't believe it, then you've got at least six or seven subspecies.

The squatty plant that Dick Schultes is referrring to as Indica, which is grown in Afghanistan, would probably have four subspecies.

INT. Is anyone doing breeding experiments?

CT. Most of the experimental work in breeding has been done by the Japanese. They're trying to remove the cannabinoids. Whether they want a fiber plant, or a commercial seed stock, I don't know, but we've looked at theirs and have always found cannabinoids.

INT. When you test, what part of the plants do you use?

CT. We use the leaf part.

INT. Do you use the bud? Do you grow sinsemilla?

CT. No. When you run it through a cigarette machine the tiny sized particle is going to be kicked right out. So you've got to get a leaf that is large enough to go through a cigarette machine, that is large enough to be sliced where you can make a good particle size out of it with the brachts still in there.

INT. When you do a test for THC content, what part are you testing?

CT. What you do is manicure it. You take the crude kilo brick, cut a sample out, manicure it, remove the stems, and the material that comes through is a mixture of the flowering tops and you extract that and analyze that. That's the only way you can do it.

INT. So your test would show lower than the sinsemilla grower's, who just takes the tops.

CT. Well, this has been the point all along. The Mexican variant is as good as you'll get. As good in quality.

The reason it shows lower is agricultural differences. The guy growing sinsemilla is going to mother that plant, kiss the plant, pray to the plant, worship the plant—his idea is to get a good high, what is known classically as a high THC content type, and that's not always the case. He's going to do whatever is required to do that.

We do not have the manpower and if we did have the manpower and could afford to do that, the cigarette machine would act up, and it wouldn't be able to take that small particle size, so our job is much more difficult. (It is) to grow a leaf that will have enough THC, and the other cannabinoids, in it to give you the drug quality required in a research protocol.

INT. Then if your material tests at, let's say arbitrarily, 2 percent THC, then actually the flowering buds might actually test at three, four or five percent THC.

CT. Some cigarettes analyzed up to 2.68, and that's after it's been processed into a cigarette.

INT. When do you harvest?

CT. We harvest the plant when it reaches the state that it has the cannabinoids that we desire for our research program, regardless of whether it's twelve weeks old, or whether it's twenty weeks old. We don't wait until it comes into flower because when you're growing in a large garden area, you can't cut all the males out. When you've got over five acres, there are going to be some of them. That flower, that little flowering top, which are leaves, is not going to do a darn thing as far as making a cigarette.

INT. Can higher quality marijuana be grown anywhere in the U.S.?

CT. Sure. The South African material has been grown in South Africa, Mississippi and Norway, above the Arctic Circle and the data is so close that if I looked at it and did not know that it was done independent of each other, I'd say someone was gilding the lily.

INT. Do you use any special fertilizers?

CT. We have soil sample done, and we try through experimental error, find out what area of our garden grows best, and then we try to mimic that.

INT. Do you do any pruning?

CT. No.

INT. How far apart do you space your plants?

CT. What we normally do is we plant the stuff heavily, we'd rather put a lot of seed in the ground and get a good stand than have a drought and then a gully-washer which washes everything away. We plant it fairly thick, and then as the plants grow, we thin them out. And each individual, or each variant will require different thinning. If it's a robust plant they've got to be far apart.

INT. Have you ever tried to simulate either climactic or soil conditions from exotic areas?

CT. No. That is totally outside the realm of what I'm interested in, outside what the National program could afford to find.

INT. Do you think altitude has anything to do with THC content?

CT. We are in the process of publishing a paper based on altitude. Ideally you should take the same seed and plant them in different geographical locations, and analyze them over a long period of time and look at the total profile. But what the botanist did is he made collections at a certain time of the year, with the idea that these samples had been unmolested by man for a long time, and that this should give us some idea of what, over a period of time, the altitude variation would give us.

INT. What would you say you could produce an acre?

CT. The Mexican variant would over a period of a lifetime be able to produce around 2 to 3 kilos of material, if you saved everything from the plant, which a homegrower would do if he wanted to utilize everything.

INT. What kind of space would a plant like that need?

CT. Probably two-and-a-half to 3 feet. Probably a circumference of 5 to 6 feet.

INT. About 25 square feet?

CT. You're talking about a nice circumference area where the plants are spread out to where they can grow, and you can make them grow really tall or real bushy.

INT. What time would you harvest?

CT. Very early in the morning. It follows a cyclic pattern. You are going to have to do an analysis of a period of weeks to find out exactly when you want.

INT. Would that vary with the variant?

CT. Definitely. There are some many variables that affect it, rainfall and humidity.

In 1971 our growing season on Mexican cultivate showed a very smooth bell-shaped curve. Then in 1972, with different climactic conditions the same seeds produced a cannabinoid drug spectrum that was much different. The same thing in '73. If you can get a variant that is totally independent of certain environmental factors, then I think it might be an excellant crop. You could grow much more fibre on a smaller acreage every year. In fact, in some areas you'd get two crops a year.

INT. Do you feel that THC generates and regenerates over a twenty-four hour cycle?

CT. I don't know. I don't think anyone knows. There is a fluctuation with time, just like our bio-rhythms change. These cannabinoids change with time. I don't know where they go but this indicates that the plant is using these in some sort of metabolic way. I don't really know how to explain it.

INT. Over a 24-hour period, you'll get a different analysis of a particular leaf, and it will go up during the dark hours and during the light hours it will go down.

CT. That's an indication, but it's not absolutely an innate fact.

INT. And the next evening it will start going up again?

CT. You have to be careful when you say it will start going up. You may run four or five days where the fluctuation will be significant, but the baseline data will be the same, where the next week the baseline data may go up, and the fluctuation may not be as much. You cannot say absolutely during the dark hours this is going to happen, or absolutely during the day hours it's going to happen. It depends a lot on the variants: the chemical makeup of the plant regarding the cannabinoids, and on what the plant needs if we assume that the cannabinoids are being metabolized by the plant. I can't say categorically that they are, can't say that they aren't.

INT. What do you think the purpose of the cannabinoids are to the plant?

CT. I don't know.

INT. Is anybody doing research on that, or are there any theories on it?

CT. There are many theories that it is a protective coating, it is also some protection from predators according to some people, but as far as knowing with a great deal of fact to back you up, no one really knows.

INT. Would a hemp-type cannabis plant ever be resiny even though it contains mostly CBD?

CT. Resin is by definition the water-insoluble components of the plant. The most resinous plants that I have seen have been grown from the Czechoslovakian and from Lebanese seed. They exude resin. However, the THC content is extremely low. Hash coming from Morocco and the Czech material has a lot more CBD than it does THC. Yet you will find more resin in these two plants at our facility than we've seen in any other plant. The Mexican material is a very potent drug type, but you don't see resin on the buds. You have to rub them in your hands real tight and crush them to get the resin on your fingers.

INT. I saw some Afghani this year that had an almost skunklike odor and it was very resinous. You mentioned Lebanese and Moroccan, and I mentioned Afghani, all of those are plants from around the 30th latitude.

CT. Depending when you harvest plants you can place them in phenotype one, two, three or four. But the Afghan, Moroccan, Lebanese, Pakistani, many of the Indians, and the Nepalese usually have more CBD than Delta-9.

INT. I think that's why all of those plants traditionally have been concentrated into hashish.

CT. They would make very bad marijuana.

INT. Although Afghani I have tried has been potent as well as tasty.

CT. This is an anomaly.

INT. How does THC get one high?

CT. I don't know.

INT. Do you have any ideas along those lines?

CT. We know that the 11-hydroxyl metabolite is an active psychotropic type compound. We also know that the hydroxylated compounds on the side-chain without the hydroxyl in the 11 position, using the Delta-9 nomenclature, also get you high. But what chemical mechanism it triggers in the brain to cause that, we don't know. And our knowledge of brain chemistry is in the embryonic stage.

INT. Do you know what constituent of marijuana causes the munchies?

CT. No. I've heard the munchies mentioned, but not having first-hand experience, and not really being concerned about the munchies, that's all I know about it.

INT. There definitely is something in marijuana that causes smokers, especially inexperienced ones, to get a craving for food.

CT. If that's the case, we ought to see a lot of fat marijuana smokers, because they ought to eat a lot; and I don't see a lot of fat marijuana smokers around.

But if you take into consideration that you're dealing with an awful lot of compounds in the cannabis plant that have a strong affinity for brain cells and for the fat cells and the various proteins in the body, then these compounds get from the bloodstream into the brain, you would expect anything to happen according to what side of the brain they come into, how they are stored in the brain, and how they are handled in the brain.

INT. Are any of the non-cannabinoid compounds found to be antagonistic or to potentiate the high?

CT. I can't answer that question.

INT. Has there been any research in that area?

CT. No; in fact, I would say that probably the review article that we are sending now off will be the first time the scientific community's been brought up to date on the number of cannabinoids.

INT. Is there a water-soluble THC?

CT. There are some water-soluble derivatives of THC that have been made by some people in New England.

INT. Will they get you high?

CT. I don't know. I assume they would because you're working on the premise that you're tacking a group off the hydroxyl group, on the aromatic ring of the Delta-9, and this will solubilize it. When it gets into the bloodstream, or whatever organ it's going to, it will be hydrolyzed back to the free-hydroxyl group or Delta-9.

INT. If you use it by ingestion will it go right through your intestine?

CT. What you're saying is that if it's in that form, it ought to go straight on through. Most of the stuff in the stomach is aqueous. And it's absorbed through the stomach or the mucosal lining in the intestine. So if it's carried along in the water, and the water is absorbed.

INT. It should go through.

CT. Well, yes, but you might get a physiologist who could tell you certain conditions might block it. But I would say yes.

INT. Are there any govenment sponsored breeding experiments?

CT. Not that I know of.

INT. Is there a seed library?

CT. We probably have the largest seed library here, and we keep small samples. The UN Narcotics Laboratory has a small one. But these seeds lose their viability over a period of years. In fact, we're doing a study now on how long you can keep them under what conditions.

INT. Is there a THC acetate?

CT. Sure. You can make it in the laboratory with no problem. It's reported in the literature many times.

INT. Is it more potent than THC?

CT. I don't really know. The acetate is just a synthetic derivative of Delta-9. You just take the hydroxyl group and put an acetate there. It's been known in medicinal chemistry for years and years.

INT. Can CBD be converted to THC?

CT. Sure. It can be converted in the laboratory, but it usually goes to Delta-8.

INT. What do physical and heat processing do to the cannabinoids?

CT. Some of the hashish samples that we see are obviously prepared in a process whereby they are put in a mold and pressed into small fingers. They are real dark, which means the hashish has been prepared by a physical or chemical method. This transforms a lot of the compounds, such as cannabichromine. these go to cannabicyclol type compounds. The CBD that's usually the predominant cannabinoid can go to cannabicitran or cannabisoan, depending on the conditions, the physical characteristics of the molecule and the chemical process that it undergoes.

Delta-9 loses some of its integrity insomuch as it has a series of hydroxylated compounds. It starts decomposing and goes into a di-hydroxy compound. There are a whole series of di-hydroxy compounds and they go ultimately to CBN.

INT. You use chloroform as your solvent. Do you have any comment on the use of chloroform versus ethanol?

CT. When you're dealing with a natural product in a crude stage, you have a great many unwanted compounds that come out. Ethanol gets a lot of pigmentation and other things out of the plant that you don't really want. Ether, on the other

hand, is more selective than chloroform because of polarity. It gets a lot of the cannabinoids out, but it also leaves a lot of them in there. Chloroform has been the best, in that it gets the maximum amount of wanted materials out and leaves the maximum amount of unwanted materials in.

Dealing with chloroform we try to put minimum exposure to any solvent in the laboratory. We have a large air-conditioner blowing a stream of air over the labs, and we have twin hoods in the back pulling it out. With that kind of ventilation system we can work with choloroform with no problem.

At one time the trend was to go to hot extractions with certain solvents, and we looked at a sample and didn't really want to go to the hot. We found that with the hot extraction we never see cannabichromene. It goes to cannabicyclol. That's why we think that chloroform is the best solvent when you're dealing with hashish, hash oil, or marijuana.

INT. Wouldn't the hot extractions also create artifacts of Delta-9?

CT. Yes. In certain cases it would create some artifacts, if you're using hot ethanol. This is the reason that I do no recommend the hot extraction.

We've also done experiments on shaking the stuff and putting it in the refrigerator. This requires a lot of hours and is just not worth it if you look at the data you get in regard to taking it and macerating it at room temperature. Shaking it all the time is not justified. Our analytical procedure stayed with putting the stuff in a sealed container or on a desk and letting it sit for an hour, then you process it.

INT. Is there anything else that you would like to say?

CT. I hope that you come up with something legitimate within itself, and that we give the people an opportunity to see both sides. I keep trying to reiterate; I have tried not to be anti- or pro-, but to look at the scientific facts. And I can back those facts up. And I would like for the people that believe that they have the idea or the right to be aware of all the volume of literature, and not be caught defending their position on a single paper.

Incidentally, it may be of interest to the people, we have all the literature on marijuana here at the Research Institute. We have been collecting this literature. We published the bibliography and we are in the process now of adding a new version with the idea that this data will never become outdated; it's there, it's archival, and it's interesting. The new one will probably cover from 1974 to 1977 or 1978.

INT. It will certainly serve a purpose to many of the people who have an interest in marijuana.

Thank you, Dr. Turner.

CT. Well, I've enjoyed it.

Ed Rosenthal's Trip to India

The February 1980 issue of the International Cannabis Alliance for Reform newsletter contained an article which noted that marijuana was legal in three states of India. A year later I was on a jet heading for Bombay, the largest city in India.

I make it a policy not to carry contraband across borders. We were settled in a hotel and my companion was despondent about our straight condition. As we strolled to an eatery, not a block from our expensive-for-India hotel, we were beckoned by several teenage boys who we could smell were smoking hash or charas. Another firm policy that I have is to cop dope within 24 hours of hitting any city, just to keep in touch. But this was ridiculous. Within 2 minutes of our first touchdown in India we were sold some small dark brown balls about three-eighths inch in diameter, which were very potent. One ball would break up nicely into a chillum. That's an Indian pipe. Since we had no chillum available, these people were kind enough to give us one. The balls were sold to us for about a rupee each (about 12½ cents at the time), which I am sure included an ample markup. Later we learned that the pipes are sold to Europeans for about ½ rupee. Over the next 2 days we scored Goa and Kerala grass, or ganja as the Indians call it, as well as Kashmiri hash. The charas was good, but I still preferred the ganja. Ganja-charas joints were very potent.

Kerala is a state in southern India that is not traditionally known for ganja. Only since the 60's has cultivation spread to meet the demands of European tourists and the growing popularity among middle-class Indian college students and other young people. Goa was a colony for Portugal until it was annexed by India in 1961. Because of four centuries of colonization the culture is as much Portuguese as Indian. It is a big tourist area, especially for hip young people since it is relatively inexpensive, and has good food and fine beaches. Hippies and hippy-influenced farmers grow some of the finest dope in all India here.

The 3 states I had read that had legal Cannabis were Madya Pradesh (MP), Orissa and West Bengal. Orissa and West Bengal were further East, so we decided to start looking for legal stuff in MP. Since I was determined to enter the fields officially I decided to go to the capital, Bhopal. This is a state capital that despite the context of India culture and design would remind an American of any state capital. Imperfect imitations of federal architecture and a lot of bureaucrats.

On our way to the capital city as our train was passing through the town of Khandwa my companion and I saw an astonishing sight. We stared at the fields of marijuana growing right by the railroad tracks. I couldn't believe my eyes; I wanted to dive right through the window.

When we got to the Department of Agriculture office I explained that I was doing private research on marijuana and had published various works on the subject. We were ushered into the Director's office and treated with tremendous respect, although Indians generally treat foreigners royally. After being served tea, we explained that we had seen some fields in Khandwa. The Director told us that to his knowledge there was no ganja being grown in MP, but he would check. A few hours later we returned to his office and he told up that there was indeed ganja growing in Khandwa and complimented us on our ability to recognize it from a fast moving train. Aw shucks . . . it's nothing.

The Director told up that the government was also growing opium for medical use in Mandsaur, another town in MP. He wrote letters of introduction for me to the Assistant Directors of Agriculture in Mandsaur and Khandwa. We decided to go to Mandsaur first.

As soon as we arrived and presented the letter of introduction to the Assistant Director of Agriculture in Mandsaur he assigned us a guide. We were introduced to researchers working on developing poppies with better opium yields. They were also working on new harvesting methods. The fields had just been planted so they only had some seedlings growing. "Come back in February or March; then the plants will be flowering and we will be cutting the pods; then you can see all the different petals. We have single- and double-flowered, fringed, reds, white, purples and multicolored petals."

The next stop was an agricultural chemical company's research office where I met one of the partners. He showed me an interesting hormone-type chemical which he said could be used to cause sterility of pollen and another which would decrease vertical growth. Then he took my companion and me back to meet his wife and children in their comfortable middle-class quarters. All of the people we met asserted they had never tried marijuana and were certainly not users. This gentleman claimed that he had tried it once and it had made him go crazy for three days and then he came down. He was surprised that I as a researcher used it regularly, and also that my companion, a woman, did.

He explained that in India the only people who use ganja or charas are the poor and some of the followers of Shiva, who are esthetic religious wanderers and beggars. Middle-class people, he said, don't use it. We explained that in America its use had become widespread despite government opposition, and that in fact, many middle-class people all over Western Europe and even in some parts of Eastern Europe used Cannabis. Later I learned that pot has become epidemic among Indian university students, who are primarily middle-class.

That evening we attended a county fair which had exhibits about health, agriculture, modernization and birth control, as well as amusements, crafts and food.

After spending a few days in Mandsaur we started on our journey across Madya Pradesh to Khandwa. On the way we met an Indian family travelling with their niece who was to be married in Uidaipur, a resort city frequented by Indians, just over the state line in Rajastan. I pulled out an inexpensive Polaroid camera and took a few pictures of the travelling party. They had never faced a camera with an automatic instant before, and immediately invited us to be their guests at the wedding. We became the wedding photographers and used four rolls of Polaroid and several rolls of 35mm film on the wedding.

The bride had never met the groom. But one Indian friend said to me after the wedding, "In America you marry the woman you love, in India we love the woman we marry." Actually, love matches are on peoples minds, since many of Indian films deal with this problem. After saying goodby to the family we back-tracked to Khandwa.

It was a good thing we detoured for 5 days because the harvest had just begun. It had been delayed because the strippers had gone on a short strike over a change in the working conditions. Previously, the plants had been stripped in the fields as they were cut. The workers peeled off the charas which accumulated on their hands, hid and later sold it. The new method was to bring all the plants to a central proc-

essing area where the women could be supervised more closely. These women were the lowest paid workers I heard about on my trip. They earned two Rupees a day, about 25 cents, which in India will buy you 4 cups of tea. Even the Excise Officers seemed embarassed about the women's low pay.

We arrived in Khandwa early in the morning. It was mid-November. After some telephone calls we were accommodated in the Circuit House, which is a modest but clean government-run hostel used primarily by government officials travelling on business. After some sleep we visited the Director of Agriculture for Khandwa who read the letter of introduction and then informed us that he was not empowered to admit us to the fields since they were not under his jurisdiction. They were administered by the Excise Department. He said that he would make inquiries and get back to us. Later that day he informed us that we would be able to visit the fields under the supervision of the Excise Department. Late in the afternoon 2 jeeps pulled up, one from the Department of Agriculture and the other from the Excise Department. An assistant was assigned to us from the Department of Agriculture. We all piled into the jeeps and took off for the fields which are about 10 miles outside of town. People stared at the strange sight of two Europeans riding in government jeeps. We entered the tightly guarded processing area surrounded by chain-link barbed wire fences, guarded by Indian Army regulars and supervised by officials from Bhopal. We were introduced to the various officials, from both the D of A and the ED and to a consultant from West Bengal who is a successful farmer. Then we were introduced to local growers who didn't speak English. Then, just 2 officials escorted us out to the fields to let us investigate them first hand.

I saw two fields in Khandwa. One was 5 acres and the other 10. The seeds had been sown about a foot apart in rows 2½-3 feet apart. The plants ranged from about 5-10 feet tall, but most of them were 8-9 feet. Rather than having a standard variety, or sowing each field with a particular variety, which would have been desirable for harvesting and quality control, these fields were from mixed seed imported from Nepal. Some of the plants were past their prime, others were ripe, and one group had just begun flowering. The plants had not been sexed and all the females were heavily seeded.

About 10 percent of the plants had died from a disease, probably fusarium wilt, which attacked the plants suddenly and caused them to wilt and brown. The roots of infected plants were covered with a white growth. It seemed that most plants exhibited resistance to the infection.

After the marijuana is cut in the field it is transported by ox-cart escorted by Indian government soldiers to the processing area. It is unloaded and stripped by women standing in a large circle. They run their bare hands down the plants leaving no vegetation on it. The leaves and buds fall into a big pile on the ground. The stems are discarded. After a pile builds up to a height of about 5 inches, a concreta roller is used to compress the buds into tight clumps. After lying in the sun for several hours the pile is picked over by hand. The whole buds are placed in wicker baskets. A lot of shake is left on the ground. This consists of leaves which deteriorate more quickly than the buds, seeds which are pressed from the buds, and glands which are knocked off. The shake is placed in a big pile to be destroyed under government supervision. When the strippers remove the vegetation it is green. The sun and the fermentation in the pile turn the buds brown. There was a distinct smell of ammonia coming from fresh piles, indicating anaerobic fermentation.

After the good buds are collected they are placed out for more sun cure. Once again they are rolled and collected. In the evening 50 lb. rocks are placed on the pile to compress it and to keep in some of the heat and moisture. Every few hours the buds are collected and repiled; each time the shake is removed. By the end of the second day the grass is totally brown, and the compact clumps of buds look similar to Colombian. Almost all the leaf dries and is dessicated; the glands on the outer section are removed or broken. The marijuana has lost the aroma of freshness due to the evaporation and destruction of the mono- and di-turpines (essential oils) during processing. The quality of the cured smoke is perhaps 50 percent of the quality of the fresh material which we smoked. But other factors must be taken into account, since we selected our own fresh material. During the sun-curing some of the THC probably changes to CBN, which has only 10 percent of the potency of THC. However, all the THC remaining is stable since it is compressed into an air- and light-free clump. It can be transported roughly with little further deterioration. Marijuana dried in the American fashion is very fragile and cannot take rough treatment.

During the tour I asked the Excise Officers whether they wanted to improve the quality of the ganja. They said that only the poor and the religious smoke it, and they use it to drown their sorrows and it makes them lazy. If it were more potent

they would get lazier. The Officers seemed unconcerned that there was no quality control since the fields were from mixed seed.

After allowing me to take a few pictures and picking a few buds which we used to show the Officers American drying techniques, we were taken back to the Circuit House.

The next morning we had an Indian breakfast with the Chief Excise Officer who was also staying at the Circuit House. It consisted of Youghurt, chapatti (flat bread), fruit, cauliflower in a light curry sauce and tea with milk. I explained that the U.S. marijuana prohibition was a total failure. By the government's own reckoning it was seizing only 10 percent of the weed on the black market. More people than ever are smoking. Large non-legal groups had formed to circumvent the ban on importation, and the domestic cultivation industry was quickly capturing the high priced end of the market. The Officer was interested. According to the Single Convention on Narcotics and Dangerous Drugs, which India signed in 1964, within 25 years of signing they are bound to make Cannabis illegal to sell or cultivate. If that happens a large legal industry in India will be handed over to the black marketeers. A source of revenue to the government will be eliminated and legal farmers and business people will be put out of work. Making the herb a criminal offense will result in a new police and civil bureaucracy and a net economic and social loss to both the federal and state governments. As proof of this, there is a thriving black market in charas and high quality grass in every state of India.

After breakfast we returned to our room. A few minutes later there was a knock at the door and the two Excise Agents barged in. One of them was carrying a load of ganja in his cupped hands. He put it on a table and explained it was a present for us. This was the first time that any government official has barged into my room to give me drugs. He noticed a chillum lying around and asked if we knew how to use it. We explained that we preferred to roll "joints" but he insisted that we both be able to use the chillum proficiently. We had not yet gotten the chillum hand positions down so he instructed us. It must have been a rare sight for him to see a woman smoking. He looked at the grass that we had dried and explained that Indians would not smoke such green material. Obviously they were suffering from New York syndrome.

Later that day a convoy of five jeeps stopped at the Circuit House to take us back to the fields. More officials and researchers had joined the party and wished to meet me. I took a series of pictures of them and then headed back to the fields to shoot more pictures, look at the plants and do a bit more picking. This time I penetrated deeper into the field so that all I could see was Cannabis all around me. I picked some choice buds.

When we got back the women were being directed in scraping their hands. They were all sitting in a straight line as a supervisor with a long stick directed the operation. The little balls of charas were collected, placed in a muslin bag which was sewn closed and signed by several of the Excise Officers. It was to be taken to Bhopal to be destroyed (we hoped not all at once). They said to me, "Look but do not touch."

One of the Excise Officers asked me what a field like this would be worth in America. I judged the field to be the quality of medium to high grade Colombian, worth in the U.S. about $700 or 5,600 Rupees a kilogram. I estimated that there were about 2,300 kilograms per acre and if there were ten acres that would be about $16,000,000 or 120,000,000 Rupees. He started giggling. In India this ganja sold in the shops for 2 grams per Rupee or about $65 a kilogram. The government buys the wet grass from the farmers for about $2 a kilogram and sells the dried cured material to the stores for $30 a kilo. Cultivation other than by license is illegal as is possession of more than 20 grams.

After the workers had left the area there were about 20 Excise Officers left. As the sun was going down they conjured up a Sadhu, a devotee of the God Shiva, whose adherents use ganja to gain enlightenment. As they stood around the Officers had us smoke from the chillum with the Saddhu. Since this was a hick town the Excise Officers needed something to keep them amused and we were the early movie. None of them smoked with us. After a while the party broke up and we went back to the Circuit House. We left for New Delhi the next day, carrying with us some of the finest legal grass in India—our American-dried grass which I had picked in the fields.

[The following material was submitted by Frederick Ford, see p. 44 for oral reference.]

THE REGULATION AND TAXATION OF CANNABIS COMMERCE

Report of the

Task Force on Cannabis Regulation

to

The Center for the Study of Drug Policy
Washington, D.C.

and

The National Organization for the Reform of Marijuana Laws
Washington, D.C.

December 12, 1981

SUMMARY OF FINDINGS AND RECOMMENDATIONS

The regulation and taxation of cannabis, as a policy alternative to prohibition, is feasible, practical, and in the best interests of the United States. The Task Force has prepared, and includes in this report, a discussion draft of a federal cannabis regulation and taxation statute, which the Task Force contends will achieve the following goals: the minimization of marijuana abuse, the protection of public health, the elimination of illicit trafficking, the creation of new industries, and the production of new revenue.

THE REGULATION AND TAXATION OF CANNABIS COMMERCE:

INTRODUCTION AND COMMENTARY TO THE CANNABIS REVENUE ACT

The domestic cannabis industry is booming. Nationwide, officials estimate that marijuana, grown, processed and distributed in the United States is a multibillion-dollar business, observed a recent article in U.S. News and World Report.[1] In California alone, it is unofficially estimated to generate a billion dollars annually, while in other states it is fast becoming a leading cash crop. Illicit plants worth millions of dollars are seized each year, yet law enforcement officials concede they can't stop the illicit flood, and couldn't even if their budgets were increased many times over.[2]

This boom is fueled by several factors: in 1978, the U.S. government began spraying Mexican marijuana fields with the poisonous herbicide Paraquat, a substance which if smoked could cause lung damage; domestic production is less risky, both physically and legally, and more profitable than importing marijuana from South America, the Caribbean, or Asia; and the demand for marijuana by adults shows no signs of abating.

The National Institute on Drug Abuse estimates that 23 million Americans smoke marijuana at least once a month. The National Organization for the Reform of Marijuana Laws estimates that a million people are growing their own, and another 100,000 do so commercially. Law enforcement officials admit the domestic catch is a small part of the overall traffic. Despite all efforts, domestic growers have skillfully created new, stronger and more profitable crops, and have become increasingly enterprising in hiding and distributing the products throughout the country to an ever-hungry market. Business is great. Marijuana is illegal, and it is everywhere.

The failure of present marijuana policy at all levels of government is of concern to both proponents and detractors of marijuana. The acknowledged inability of these present policies to deal effectively with the marijuana situation is the starting place for this report. In these pages, an attempt is made to review present policies, make some informed judgments, and outline the details of a suggested new policy at the federal level. Also included in this report is a discussion of the significant international legal issues, and pertinent bibliographies.

The Task Force

This report is an effort at law reform performed by a volunteer, informal group of private citizens, mostly lawyers and economists experienced in public service. A small stipend was provided by the sponsoring organizations toward administrative expenses. The members approached the matter of cannabis regulation seeking to craft an alternative cannabis policy rationally structured to meet feasible and appropriate goals. While the Task Force was commissioned by organizations interested in cannabis policy, it deliberated independently of the policies of any specific group or organization. Rather, it was the best interests of the public that the Task Force has sought to serve in advancing these proposals.

This report is not aimed at advancing marijuana smoking, creating jobs or serving the interest of the marijuana industry. The recommended policies may be seen by parochial interests as distasteful, but they are solely designed to serve the interests of all who are affected by marijuana--and in this country that includes every citizen.

Premises

The Task Force begins its work by asserting that present public policy on marijuana is based upon a faulty premise, namely, that all use of marijuana by all persons, at all times, in all circumstances, constitutes "drug abuse."[3]

The existing policy, based on that notion, has been to try to eliminate all marijuana use. The chief method chosen to bring that about is to make possession, cultivation and sale of marijuana a serious crime.[4] Backing up the law enforcement approach are extensive drug abuse prevention, treatment and rehabilitation programs.[5] This two-pronged approach, carried out at both the federal and state levels, is itself based on the historically false premise that marijuana use can be eradicated by these measures. If it could, one would expect that the billions of dollars spent by federal, state and local governments over decades would have seriously reduced the marijuana industry.

That has not happened. The number of people who use marijuana in this country has increased 500-fold since marijuana was outlawed under federal law in 1937--23,000,000 Americans, 13% of the adult population, are now using marijuana regularly.[6]

The Signs of Failure

The specific signs of the failure of present marijuana policy are apparent to many, but deserve to be briefly outlined.

- Despite decades of the best, most intense efforts by law enforcement officials, drug abuse prevention experts and supporters of the present system, marijuana is generally available in our society. In the words of The New York Times, it is "the most widely-accepted illegal indulgence since liquor during Prohibition."[7] While some cite marijuana's widespread acceptance and use to point out the terrible aspect of "the marijuana problem," we draw the opposite conclusion, namely, that if it were not for the dubious glamor provided by marijuana's illegality, its use would be completely matter-of-fact.

- Enforcement costs of the current prohibition are astronomical. The federal government spends a billion dollars, at the least, in a host of different programs and agencies trying to eradicate marijuana and its demand. Consider: The Drug Enforcement Administration budget has exceeded $200 million for the last three years. 25% of the federal prison population has been sentenced for drug trafficking, approximately one half of those for marijuana trafficking. The Coast Guard budget is $2 billion per year; its major law enforcement mission is to interdict marijjana smugglers off the Atlantic and Gulf Coasts. A major effort of the U.S. Customs Service, at every port of entry, is to intercept persons who meet the profiles of drug smugglers. No revenue, of course, is collected as a result of that effort,

like the duties collected when luxuries are brought into the country, or the penalties when undeclared items are intercepted.

Last year, more than twice as many persons were arrested for marijuana than for rape, robbery and murder combined,[8] misallocating scarce law enforcement resources from the investigation and prevention of the kind of crime that the public justifiably dreads.

Public officials, exploiting the concern about crime, have tapped the public treasury for every opportunity to stamp out marijuana, from DEA coloring books[9] to the Goodyear Blimp.[10]

Legislation recently enacted by Congress will authorize the use of military satellites and reconnaisance aircraft, capable of examining every person's backyard. The price tag for the military hardware has not been estimated.

This money must be considered a lost opportunity for other programs, including crime prevention, education, and health care.

• Anyone who admits familiarity with marijuana's effects implicitly admits to breaking the law. Consequently, those whose duty it is to teach children about the drug are forced into the dilemma of choosing between expressing false ignorance about the drug or confessing to law breaking. A large gap of credibility, therefore, has developed between those who use marijuana and those who have the responsibility of teaching how to avoid its abuse. Marijuana's illegality thwarts effective public awareness and education by parents, school officials, and drug abuse educators about the responsible use of marijuana by those who choose to use it. "Imagine teaching driver education," said Maureen Porter, a Westhampton, Massachusetts, high school teacher, "if cars were illegal."

• Demand for marijuana by one in ten Americans has spawned an enormous underground economy. Hundreds of millions of dollars in cash transactions are never reported as income. Hundreds of millions of dollars leave America, never to be invested here, boosting the international trade deficit. Hundreds of millions of dollars have been accumulated and spent perniciously to inflate the economy of South Florida. Government measures of employment are skewed so that economic policies to encourage the economy may be fueling inflation to reduce non-existent unemployment--the hidden unemployed who are working in the marijuana industry, underground. Marijuana entrepreneurs face an urgent need to launder their proceeds through dishonest banks and businesses. Otherwise law abiding citizens must choose between turning in their neighbors or friends, or being corrupted into a conspiracy of silence that supports their businesses and the local economy. Regulators of legal industries such as banking, shipping, real estate and so forth as well as narcotics investigators, airport operators, policy and seamen are all subject to the temptation of accepting tens of thousands of dollars for looking the other way when the marijuana is going through. Corruption is florishing, just as it did during alcohol Prohibition, 1920-1933.

• The public health is endangered, another situation reminiscent of alcohol Prohibition, when thousands of people died or were permanently blinded or paralyzed by drinking poisonous preparations containing--and often not containing--alcohol.[11] Unfortunately, a similar situation occurs today with marijuana and other illicit drugs. While alcohol itself presents serious physical side effects, consumers have little need to fear that

adulterants will blind them or paralyze them even if they drink only a little. The Federal Food, Drug and Cosmetic Act covers most substances that are ingested to assure their safety. But Americans who buy marijuana are unavoidably exposed to health risks unrelated to the ~~of~~ marijuana itself. Marijuana is sometimes sold mixed with PCP or other dangerous drugs. Sometimes it contains natural contaminants as a result of improper storage or processing. Yet, ironically, the marijuana consumer who seeks the assurance of purity by cultivating his own marijuana greatly multiplies his risk of going to jail.

- Marijuana prohibition has fostered widespread disrespect for law and science, resulting in loss of credibility about marijuana's health effects and statements about other drugs. To a great many Americans, the marijuana laws are not worthy of respect. A law that cannot command the respect of the public is a law that does not deserve the respect of the public.

Policy Goals

The central issue for policymakers then becomes, What ought to be done about the situation? Before considering the options, it is important to establish the basis upon which our recommendations were reached, namely, the goals sought to be achieved.

The Task Force believes that a good cannabis policy must, at the very least, seek to achieve the following goals:

1. The minimization of cannabis abuse. "Abuse" is defined as the use of cannabis to the extent that such use interferes with personal development or achievement or encroaches upon the rights of others.

2. The protection of public health. A cannabis policy should contain strong disincentives for adulterated or contaminated cannabis, as such disincentives exists for foods and other ingestibles.

3. Elimination of the illicit market in cannabis, permitting the concentration of law enforcement resources on the prevention and investigation of crime against persons, property and the public.

4. The production of revenue, by subjecting the cannabis industry, and profits made in it, to taxation.

5. The removal of legal obstacles to the emergence of a new hemp industry, stimulating American agriculture and creating many new jobs and industrial products.

A corollary to curbing abuse is allowing the responsible use of cannabis by adults, to the extent that such use does not invade the rights of others. This privilege is essential to any workable cannabis policy, and unless it is established, none of the policy goals can be achieved with available resources and law enforcement techniques our Constitution will allow.

In attempting to formulate a comprehensive policy on marijuana that would achieve these goals, the Task Force has been guided by certain principles that apply directly to the problem of cannabis policy formulation. The first such principle is that individuals must bear full and ultimate responsibility for the consequences of their own actions, and cannot look to government for self-protection. The role of government "is to protect us from each other, not from ourselves," Ronald Reagan often observed during the 1980 Presidential campaign. The Task Force shares this view.

The second principle has to do with the balance of authority between state governments and the federal government on matters of sumptuary policy, i.e., what people should or should not be allowed to eat, drink or smoke. In a nutshell, the Task Force believes that federal involvement in such matters should be kept at a minimum, and states should be free to adopt such additional policies as as each state sees fit, within strict limits of Constitutionality.

The Task Force has considered the experiment with alcohol Prohibition from 1920 to 1933, and has carefully examined the legacy of its repeal as well as of Prohibition itself. The Task Force suspects that if the architects of alcohol legalization were given another chance, they would do some things differently today. License quotas and price controls, for instance, would not today be viewed as effective curbs on availability. The supply will keep up with demand, regardless of the paucity of suppliers. The role of alcohol advertising, said by many to account for alcohol's pervasive use in America, would be closely examined. Too, the architects might consider making alcohol taxes pay for government programs to discourage alcoholism.

Options

Having considered the goals of cannabis policy, the principles sought thereby to be upheld, and the historical experience of the repeal of Prohibition, the Task Force has considered, and rejected, three of what it considers the four broad policy options available to policymakers today.

The first option, rejected by the Task Force, is the strict enforcement of current law. Applying legal sanctions to a sizeable sample of marijuana consumers would require the creation of an all out police state. One conjurs up images of marijuana monitors stationed in movie theatres and baseball stadia. Constitutionality aside, legislators would be loathe to allocate the funds that this effort would require. The Task Force believes that an emphasis on law enforcement to discourage marijuana use is like throwing money down a hole. If prohibition could possibly work, it would have by now. It hasn't, it can't, and it won't. Public officials who call for "more dollars, more manpower and more equipment" in the "War on Drugs" sadly and tragically echo those who for so long called for "more dollars, more manpower and more equipment" in the losing venture in Vietnam a decade ago.

The second option that the Task Force has likewise dismissed is outright legalization, i.e., the total repeal of prohibition, producing a situation where marijuana is treated under the law like tomatoes. The goals of cannabis policy enunciated in this report require moderate regulation, to protect public health, limit availability to minors and produce significant tax revenue. Hence the Task Force rejects this option.

The third option has been widely discussed in recent years, and has been enacted as the law of eleven states. It is partial prohibition, more commonly known as decriminalization. Under decriminalization, having a small quantity of marijuana is not a crime, but growing it and transferring it--selling it or giving it away--remain a crime. Decriminalization is a rational, short-term response to the marijuana situation that has evolved since marijuana was discovered by the middle class in the 1960's. However, decriminalization does not address the basic policy goals that the Task Force believes a good cannabis policy ought to address, detailed above.

The Model

The Task Force has drafted a federal bill called The Cannabis Revenue Act. The bill rescinds current provisions in federal law governing cannabis and replaces them with the legal mechanisms necessary for a regulated, taxed market in marijuana.

Basically, the CRA is enabling legislation that allows states to adopt a variety of alternative policies to control marijuana use and commerce. Because the Task Force is of the view that federal involvement in cannabis regulation should be minimized, the statute regulates by federal law only those aspects of the cannabis market which, in the view of the Task Force, are demanding of uniformity throughout the United States, to prevent the emergence of another underground market derived from interstate smuggling, as now occurs to some extent with cigarettes. The CRA would also provide sufficient regulation that a state would be relieved from setting up an entire state regulatory scheme and bureaucracy in order to reap the benefits of regulation and taxation.

If the CRA were enacted into law, states would have a wide range of cannabis policy options from which to choose:

In the first place, a state could make no changes in its law governing cannabis, in which case cannabis would remain illegal, and adults would have no legal access to regulated, taxed cannabis in that state. The situation would be similar to that following the repeal of Prohibition, in 1933, when enactment of the 21st Amendment to the Constitution and repeal of the Volstead Act shifted to the states authority to legalize the sale and consumption of alcohol, and a federal framework called The Federal Alcohol Administration Act was enacted into law[12] As there were many "dry" states following repeal (and many "dry" counties remain today), there would no doubt be under the CRA states where cannabis would remain illegal.

A second choice available to states would be to participate with the federal government in the regulation and taxation of cannabis under the CRA. Under this option, a state would repeal its current provisions of law governing cannabis, and replace them only with the following provisions, required by the CRA (as, under one option, a condition to recovering revenue from the federal government):

1. Measures restricting sale or distribution of cannabis to minors, imposing such sanctions as each state determines.

2. Measures restricting the operation of motor vehicles under the influence of marijuana, with appropriate penalties, civil and/or criminal, as determined by the state, as well as legal safeguards which are based on quantitative standards for determining actual levels of impairment.

Without further regulation at the state level, commerce in cannabis would be regulated exclusively by the CRA and the administrative regulations promulgated thereunder by the Secretary of the Treasury. The resulting cannabis market would have the following features:

- Adults would be free to grow, possess and give away cannabis for personal use. As current alcohol laws now permit individuals to brew a quantity of beer and wine for personal and household use, so too would individuals be allowed personal cultivation, possession and non-commercial distribution of cannabis. An individual who wishes to go into the <u>business</u>, however, of cultivating, processing, storing, distributing or selling cannabis, even on a small scale, would be required to obtain a license. Such license would be readily obtainable, and would pose no obstacle to any qualified person's engaging in

legal cannabis commerce.

• Like wine, cannabis would be commercially available for purchase by adults from licensed retailers. Cannabis packages, like pipe tobacco or herbal tea, would contain one ounce of processed cannabis. The package would bear a tax stamp, and the label would reveal the origin of the cannabis, the identity of the contents by species and variety, the net quantity, potency and a cautionary label.

• Retail sales of cannabis, like the retail sale of tobacco cigarettes, would take place from a wide variety of merchants, including liquor stores and tobacconists. Since the retail price will contain a large revenue component, the price of cannabis packages will be relatively high, compared to packages of tobacco cigarettes, probably from $25 to $50 per package. Storekeepers, always cautious about the security of small, high-priced items like watches or expensive cigars, will probably display cannabis packages in a glass case near the cash register. Cannabis will not be sold by vending machine.

• Advertising would be regulated, but not necessarily banned. The Task Force has included optional provisions in the CRA concerning advertising (§5941). Option One would ban all advertising; Option Two would subject cannabis advertising to the same restrictions that the wine and beer industry are now subject to.

• The CRA also contains alternative provisions for disposition of revenue collected by the federal tax on cannabis (§5936). Under Option One, revenue is shared between the federal government and the states that regulate; under Option Two, revenue would be retained by the federal government.

A third choice available to states would be to impose their own regulatory and/or taxation schemes in addition to the CRA, as many states now do with alcohol and tobacco. For example, a state may impose the following restrictions on the cannabis industry:

1. License quotas, such as now exist for retail alcohol licenses.

2. Restrictions on public use of cannabis, including the types of public establishments where cannabis can be consumed.

3. Further taxation of cannabis, perhaps earmarking cannabis revenue for particular purposes, like housing for the elderly, energy conservation or research institutes.

States would not be eligible for federal revenue sharing if they imposed further restrictions on advertising, labelling or personal use as defined in the CRA (§5921(b)).

Revenue

The question inevitably arises, What is the revenue potential of a regulated, taxed, cannabis market? Considered responses to that question can vary widely; the only thing that can be said for sure is that no one knows. There simply is not available a data base from which a reliable projection can be made. How many Americans are smoking marijuana and how much are they smoking? They aren't saying.

Despite the paucity of reliable data, a most thorough analysis of this question was done by Alan S. Garber, an attorney, in a paper presented at the National Drug Abuse Conference in 1977.[3] Using 1974 data from the Drug Abuse Council and the National Institute on Drug Abuse reflecting an adult market of twelve million users and an

average retail price of $32 per ounce, Garber arrived at a potential tax revenue of 1.8 billion dollars. He emphasized that this was a very conservative figure, since his data base included only "current" adult users (defined as having used within the past month). NIDA estimates that the number of regular users is twice today what it was in 1974.[14]

At the other extreme, using the law enforcement estimate that marijuana is a $25 billion industry,[15] if only half of the money that is now going to pay people to take the risks to import, cultivate or sell cannabis were devoted to tax revenue, then the revenue possibilities could conceivably run as high as ten to twelve billion dollars each year.

Both approaches make several key assumptions. They are:

1. That the government will attempt to extract the highest possible revenue without creating a troublesome illicit market in untaxed cannabis.

2. That in a regulated, taxed market, production costs will continue to comprise only a small percentage of the retail price.

3. That consumers largely will prefer legal cannabis to illicit cannabis, because it will be available, its quality is assured and consistent, and there are no legal risks for responsible adults.

The only conclusion, albeit tentative, that can be drawn today on potential tax revenues is that they will be sizeable. As for the amount, the Task Force cautiously tends toward Garber's projections, adjusted for the best data available today on levels of consumption. The uncertainty regarding potential tax revenues underscores the need for serious research in this area. The Task Force recommends that the government, private industry, universities and foundations fund and undertake the research projects necessary to provide lawmakers and the public with accurate information on the economic impact of a regulated cannabis industry. Such studies should cover not only tax revenues, but also agriculture, common carriers, the packaging industry, law enforcement, the income tax system, and the many other elements of the national economy.

Industrial Hemp

For thousands of years, the cannabis plant has been recognized for the superb quality of its fibre and the oil produced by its seeds. A significant product--hardly a by-product--of replacing cannabis prohibition with a policy of regulation and taxation is that a whole new industry will open up, providing many new products and many new employment opportunities. For a colorful glimpse of the future hemp industry, see the excerpts from a letter from Michael Aldrich, included as Section IV of this report.

Under the Cannabis Revenue Act, the hemp industry would be exempt from all cannnabis excise taxes and practically all aspects of regulation.

Conclusion

The Task Force wishes to emphasize that the recommendations of this report are hardly chiselled into stone; they are not meant to be the last word on cannabis regulation and taxation, but rather, a beginning word in an informed and responsible public debate over marijuana policy in the 1980's. The Cannabis Revenue Act is a statutory rendering of a regulated, taxed market in cannabis that

the Task Force strongly believes is in the immediate and long term best interests of this country. This plan is a prototype, inviting modifidations and refinements.

While honest disagreements remain among members of the Task Force concerning many details of cannabis regulation and taxation, all its members are resolutely of the view that the regulation and taxation of cannabis will be a necessary ingredient not only to this nation's economic recovery, but also as a method of bringing some control to marijuana use in the United States. The Task Force therefore calls on Congress and the state legislatures to undertake a close examination of this and other models for cannabis regulation and taxation as are calculated to achieve the stated policy goals.

FOOTNOTES

[1]U.S. News and World Report, October 15, 1981, p. 31.

[2]Ibid.

[3]E.g., Drug Abuse Prevention, Treatment, and Rehabilitation in Fiscal Year 1980, Third Annual Report from the Secretary of the Department of Health and Human Services to the President and Congress of the United States, U.S. GPO 1981-341-166/6357, released October, 1981, p. 8: Drug use prevalence surveys, commissioned and relied upon by the government, "do not routinely distinguish between drug use and drug abuse."

[4]Title 21, United States Code, Section 101 et seq., The Controlled Substances Act.

[5]Drug Abuse Prevention, Treatment, and Rehabilitation in Fiscal Year 1980, supra.

[6]National Survey of Drug Abuse, National Institute on Drug Abuse, Washington, D.C., 1979.

[7]The New York Times, editorial, January 1, 1980.

[8]Uniform Crime Statistics, Federal Bureau of Investigation, 1981.

[9]Soozie, U.S. Department of Justice, Drug Enforcement Administration, U.S. GPO 1978: 0-274-428.

[10]Associated Press news item, appearing in The Boston Globe, November 17, 1981.

[11]Kobler, John, Ardent Spirits: The Rise and Fall of Prohibition, G.P. Putnam's Sons, New York, 1973, pp. 301-314.

[12]Federal Alcohol Administration Act, Title 21 United States Code.

[13]Garber, Alan S., "Potential Tax Revenues from a Regulatory Marketing Scheme for Marijuana," Journal of Psychedelic Drugs, Vol. 10(3) July-September, 1978, p. 217.

[14]National Survey of Drug Abuse, National Institute on Drug Abuse, Washington, D.C., 1979.

[15]National Intelligence Estimates, National Narcotics Intelligence Consumers Committee, U.S. Department of Justice, 1979.

III.

THE SINGLE CONVENTION ON NARCOTIC DRUGS: AN OBSTACLE TO CANNABIS REGULATION AND TAXATION?

by

Robert L. Pisani

The Single Convention on Narcotic Drugs (hereinafter called the "Convention"), is the major international treaty that deals with cannabis laws. It was signed in 1961 under the auspices of the United Nations, took effect in 1964, was ratified by the United States in 1967, and is presently ratified by 110 countries.[1] It superseded ten major international agreement going back to 1912, hence the title, "single" convention. A convention is a treaty.

To what extent, if any, does the Convention pose an obstacle to the regulation and taxation of cannabis in the United States?

On its face, the Convention appears to foreclose this possibility. Article 4(c) obligates the signatories to "take legislative measures as may be necessary . . . subject to the provisions of this Convention, to limit exclusively to medical and scientific purposes the production, manufacture, export, import, distribution of, trade in, use and possession of drugs" (including cannabis).[2] This is the single overriding purpose of the Convention, reinforced by the provisions of Article 36, which further obligate signatories to provide for penal provisions and other actions "which . . . may be contrary to the provisions of this Convention."[3] While several authorities who are charged with enforcing the Convention have ruled that decriminalization does not violate the treaty,[4] they have expressed the view that legalizing sale for nonmedical purposes clearly would.[5]

However, the Convention itself could be modified or amended, in accordance with a number of provisions within the Convention itself. Article 3 of the Convention, for example, establishes a series of schedules whereby all drugs covered by the Convention are placed in one of three schedules, the criteria for which include the drug's susceptibility to abuse and its risk to public health and social welfare. Cannabis is placed in Schedule I, the harshest category. Article 3 provides, however, that drugs can be re-scheduled or even deleted from the schedules altogether at the request of a party to the Convention. Upon request of a party, the Commission on Narcotic Drugs, entrusted with the administration of the treaty, would then render a decision as to whether such a deletion should be made. However, the Economic and Social Council (ECOSOC) may review the decision of the Commission at the request of any party.

The Convention could also be amended under Article 47. An amendment could either remove cannabis from the Convention entirely (which is essentially the equivalent to deletion), or allow the parties the option of legal regulation and taxation of cannabis. However, this proposal would also ultimately come before ECOSOC which would then call a conference of all parties concerned to discuss the amendment.

Another option available is denunciation of the Convention, i.e., a declaration by a signatory that it no longer choses to be bound by the treaty. In order that a policy of cannabis regulation and taxation

could be enacted and pursued by a signatory state without turning its back on the international control of other drugs covered by the the treaty (opiates and cocaine), the state could combine a denunciation under Article 46 with a re-ratification containing reservations in accordance with Article 50.

With regard to the international control of cannabis, it is important to point out that the Convention does not today in any way restrict signatories from adopting whatever policies they wish concerning the leaves of the cannabis plant, or any part of the plant cultivated for industrial purposes (fibre and seed) or horticultural purposes (Article 28). The leaves were specifically left out because they are used to make a popular drink in India and Pakistan, and representatives of those countries opposed banning the beverage.[5] It has been often pointed out that the United States could immediately legalize (i.e., regulate and tax) the use of and commerce in leaves without contravening the Convention, as well as use and commerce for industrial or horticultural purposes.[6]

Another step that a state could take to accomodate a policy of cannabis regulation and taxation would be to invoke a rule of international law that allows states to withdraw from treaties. The Vienna Convention on the Law of Treaties, a compilation of international law practices with respect to treaties and conventions, lists no fewer than fourteen circumstances under which a state could withdraw from, modify or suspend the operation of a treaty under international law.[7] Of these, at least one can be said to be squarely applicable in the case of cannabis: a fundamental change of circumstances.

The doctrine of "changed circumstances" can be invoked when the underlying conditions upon which a treaty was premised fundamentally change.[8] When the Convention was promulgated in 1961, one of its stated goals was to combat "addiction to narcotic drugs [which] constitutes a serious evil for the individual and is fraught with social and economic danger to mankind."[9]

Medical knowledge concerning cannabis has advanced considerably since 1961. While the issue of marijuana's relative harmfulness or harmlessness continues to be widely debated, it is now generally agreed that cannabis is not addictive and is not a narcotic. Unlike the case in 1961, few authorities take the position today that addiction to narcotics is curbed by continuing international restrictions on cannabis.

A third path exists whereby cannabis regulation and taxation could be adopted as a policy in the United States without running afoul of the Single Convention. Put very simply, it is to pass superseding legislation that would effectively abrogate the provisions of the Convention.

The right of Congress to enact new laws which supersede treaties is virtually unquestioned by Constitutional scholars and government officials.[10] The usual practice, however, is for Congress to request of the President, as the officer of the United States Constitutionally authorized to negotiate with foreign governments,[11] to give the notice of withdrawal.

An interesting question arises when there is a difference of opinion between the Congress and the President as to whether a treaty should be superceded. For example, should the President decide that the Convention no longer serves the interest of the United States, can he unilaterally denounce its provisions, without act of Congress? The answer appears to be in the affirmative, since, short of impeachment, there is little that the Congress can do about it. This was the case recently when President Carter denounced a treaty with Taiwan in order to establish formal relations with the People's Republic of China,

demonstrating that the President has the "effective" power unilaterally to denounce a treaty that he feels is not in the best interests of the country.[12]

A request of the Congress to the President for denunciation of a treaty can take several forms: a "Sense of the Senate" or "Sense of the Congress" resolution to the President requesting denunciation, a bill requesting denunciation, or a bill containing legislation which on its face superdeces a treaty. In the case of the latter, the bill would likely contain a section requesting the President to terminate the relevent portions of treaties which conflict with the new legislation. The Cannabis Revenue Act contains such a provision.

If the request is merely in the form of a resolution, the President clearly has the power to obey or ignore it. Should the request be put in the form of a bill by itself, the President could veto it, and should the veto be overriden, he would be on very shaky ground legally if he refused at that point to terminate the treaty.[13] There are very few instances in history where the President has refused to issue a notice of termination pursuant to the passing of conflicting legislation.[14]

More important than the President's refusal or acquiescence in the denunciation of treaties, is the fact that the Congress has the effective power to terminate treaties with regard to domestic law. The President, as the sole organ of communication with foreign powers, has the right to give notice of denunciation; but his refusal to do so when conflicting legislation has been passed does not alter the fact that the domestic law is no longer bound by the terms of the treaty in question. The President's refusal to abrogate the treaty under these circumstances would create a breach of international law; however, it would not be an effective barrier to the implementation of superseding legislation.[15]

Conclusion

There are three approaches to accomodating obligations of the United States under the Single Convention on Narcotic Drugs to a domestic cannabis policy of regulation and taxation: by amending the treaty, by withdrawing from the treaty on the grounds of changed circumstances, and by enacting domestic law which conflicts with the treaty.

The difficulty with employing the first two means is that they would, in almost all cases, require the agreement of a substantial portion of the other parties or signatories to the Convention. Not only does this severely limit the likelihood that such a change could be implemented, but it dramatically increases the time span under which a change could be brought about, since international conferences and indeed even international correspondence would take a number of years to accomplish.

The most efficient and expeditious means of dealing with international law obstacles to cannabis regulation and taxation is to enact superseding legislation, in a form such as the Cannabis Revenue Act. While renegotiation of foreign treaties may be desirable for the purpose of explaining to friendly countries around the world the reasons behind the adoption of a new domestic policy on cannabis, such would not be required by the terms of law.

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STATEMENT OF EILEEN P. SWEENEY, STAFF ATTORNEY, NATIONAL SENIOR CITIZENS LAW CENTER

FOOTNOTES

[1]There are 110 parties to the 1961 Single Convention on Narcotic Drugs and 69 to the 1972 Protocol amending the Single Convention on Narcotic Drugs. See United Nations Document E/CN. 7/659, 21 November 1980, "Implementation of the International Treaties on the Control of Narcotic Drugs and Psychotropic Substances." The chief effect of the 1972 Protocol was to expand the power of the International Narcotics Control Board (INCB), which was created to enforce the technical provisions of the Convention.

[2]Single Convention on Narcotic Drugs, United Nations, 1961, 18 UST 1408, 1961, Art. 4(c), as amended by the 1972 Protocol.

[3]Id., Article 36, Section 1.

[4]See Report of the International Narcotics Control Board 1977, United Nations, Geneva, U.N. Document E/INCB37 Page 1. Also Lande, Adolph, Commentary on the Single Convention on Narcotic Drugs, 1961, United Nations, New York, 1973, Pages 112, 113, 402.

[5]Lande is quite emphatic on this point: "Parties cannot legally authorize the possession of drugs for other than medical and scientific purposes. .." (Page 113). The INCB, in its Report for 1975 (E/INCB/29, paragraph 28), reiterated this position: "Parties are . . . obliged to take the necessary measures to prevent any non-medical consumption. However . . . apart from authorizing its use licitly, each government is free to decide . . . on the most appropriate measures for preventing the non-medical consumption of cannabis." (Emphasis supplied).

[6]See, e.g., Aldrich, Michael, "Notes on Structuring Legal Sale of Marijuana to Minimize Abuse," August 15, 1971, Amorphia; Boston University Legislative Services "Project for Massachusetts NORML," May, 1978; Cohrsson, John J., "Legalization of Marijuana," Letter to District Lawyer, date unknown; Irwin, Samuel, "Pros and Cons of Marijuana Legalization," from Drug Abuse: Data and Debate, Editor P.H. Blachy, Charles C. Thomas, Springfield, 1970, pg. 309; Meyers, Peter, Letter Drug Enforcement Magazine, October 10, 1977.

[7]Article 53 of the Vienna Convention on the Law of Treaties defines a peremptory norm of international law as "a norm accepted and recognized by the international community of states as a whole as a norm in which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character." Vienna Convention on the Law of Treaties, open for signature May 23, 1969. U.N. Document A/CONF.39/27 (1969), reprinted in 63 American Journal of International Law, 875-903. The Vienna Convention, though never ratified by the United States is frequently cited by international legal scholars and the Legal Advisor to the State Department. See, e.g., State Department Letter to Senator Adlai Stevenson, September 12, 1980, Department of State File P80 0124-1938, P80 0115-1502. Reprinted in 75 American Journal of International Law 147 (1981).

[8]Id., Articles 48-54, 57-64.

[9]Preamble, Single Convention On Narcotic Drugs; see also the International Law Commissions Commentary on the Draft Law of Treaties, later to be abided as the Vienna Convention on the Law of Treaties. Article 59 (Article 60 of the Vienna Convention), paragraph 10. Reprinted in 61 American Journal of International Law 285, 1967.

[10]See, e.g., The American Law Institute, Foreign Relations Law of the United States, St. Paul, Minnesota, 1965, Section 145: (1) An act of Congress enacted after an international agreement of the United States becomes effective, that is inconsistent with the agreement, super-

sedes it as domestic law of the United States, if the purpose of Congress to superside the agreement is clearly expressed. For relevent court citations see Ibid. pg. 447, following.

[11]Article 2, United States Constitution; see also, United States v. Curtiss-Wright Export Corporation, 299 U.S. 304 (1936).

[12]American Law Institute, op. cit. supra note 12.

[13]Nelson, Randall H., "The Termination of Treaties and Executive Agreements by the United States: Theory and Practice," Minnesota Law Review, Vol.42, No. 5, April, 1958. Reproduced in Termination of Treaties: The Constitutional Allocation of Power, materials compiled by the Committee on Foreign Relations, United States Senate, Washington, D.C., US GPO, 19 December 1978.

[14]One of the few instances occurred in 1920, when President Wilson signed into law the Merchant Marine Act (Jones Act), but refused to comply with Section 34 of the Act, requiring that the President abrogate all treaties "which restrict the right of the United States to impose discriminatory customs duties on imports entering the United States on foreign vessels." (18 Stat. 1007). A press release issued by the Department of State on September 24, 1920, pointed out that the treaties in question do not contain provisions for termination, and that Section 34 was passed without having any language in the rest of the bill affect the treaties in question. In other words, nothing in the Jones Act was inconsistent with treaty obligations then in existence; the Congress merely sought to indicate that they may wish to impose discretionary import duties in the future, which would then have confliected with international obligations. Wilson realized that this Congressional second-guessing mounted to a constitutional interference to the right of the President to formulate foreign affairs.

Upon examination, it is clear that the case is somewhat of an aberration in the history of U.S. treaty termination. More specifically, it does not apply to the case at hand, because (1) the Single Convention does contain a clear denunciation clause, and (2) any superseding legislation would clearly contradict existing international agreements.

For a more in depth discussion of the Presidential treaty termination power see Hill, Cynthia J., "Unilateral Presidential Treaty Termination Power by Default: An Analysis of Goldwater v. Carter," Texas International Law Journal, Vol. 15, Spring, 1980. See also the material compiled by the Committee on Foreign Relations, United States Senate, Washington, D.C., US GPO, 19 December 1978.

[15]See Nelson, op. cit., supra note 13, pg. 278. See especially note at 59.

THE FUTURE OF HEMP IN AMERICA:

SOME THOUGHTS

By

Michael Aldrich, Ph.D.

EXCERPTS from a letter of Michael Aldrich, Ph.D., Director, The Fitz Hugh Ludlow Memorial Library, San Francisco, California, to Richard M. Evans, January 21, 1981

Hemp fibre, canvas cannabis and cordage. The name of the game is that cotton is not durable enough and plastics (polyesters) are too creepy; hence the common combinations of the two found in even the best clothing shops these days. So the future points to an enormous potential for hemp cloth, if it can be produced cheaply enough (in volume) to make it competitive. The first problem here is an image problem: people tend to think of hemp as a heavy rough cloth like burlap or Welcome-maps for the front door (which are often made of jute or sisal hemp, not real hamp). True cannabis cloth can be finished as fine and soft as silk or Madras cotton or British wool. It can be as thick as canvas (its original name, in Pliny for instance) or as thin as muslin or cheesecloth. It is the toughest known natural fiber. Remnants of hemp cloth are found in Siberian tombs dating 1000 - 2000 years old when everything else including the skeletons has disintegrated. (Freezing helps.)

Here we are talking about the industry that kept Kentucky alive from 1800 to about 1860, the industry that Spain and Britain and George Washington's America and early California (1795) all wanted to establish to compete with Italian hemp, the industry that could be larger than cotton or wool in a very few years.

Off in the wings of course is the fashion industry. If Yves St. Laurent were to endorse hemp fiber as an ideal cloth for slinky evening gowns and sexy off-the-shoulder wraps (instead of opium perfume or mink coats), legalization would be a lot closer than it is today.

Blankets, sheets, upholstery coverings, convertible tops, soft storage bags, raincoats, finished artists' canvas for paintings.... a great market for hemp.

Hemp paper. The situation at least in California is that the lumbering industry has about deforested the land as much as it can without ruining it forever. The problem (behind unemployment, etc.) in Mendocino and Humboldt Counties is simply that it takes 40 years of God and Man to make a tree. It takes a few months to grow a hemp crop big enough to supply all that a forest of trees would supply in terms of cellulose pulp. Hemp is the ideal source for newsprint and wrapping paper and butcher paper, cardboard (of varying toughness), paper towels (very absorptive), napkins, etc. AND, most people don't know this, hemp paper can also be bleached, finished to make a wonderful white rag paper the equal of linen paper and probably cheaper. The first true paper in the world was Chinese paper about 1st century AD composed of old hemp rags, long white bast fibers from recently retted hempstalks, and probably a little mulberry bark. Examples have lasted in the caves of western China for 1500 years. This sort of thing impresses ecologists.

Hempseeds and hemp oil. This will be a byproduct of the bhang and hemp fiber industries, rather than of the sinsemilla industry, of course.

Hempseeds (legal, thanks to Harry Anslinger & Friends) are ideal birdfood, as the birdseed manufacturers attested in 1937, and as our canary "Eep" will chirp. There will also be a huge seedbank industry to supply the hemp industry, sorted and graded by species and heritage and purpose. If you want big fat juicy seeds with lots of oil, for medicine or for painting (like linseed oil), you'll want C. indica. If you want seeds that produce big tall fiber plants that themselves produce lots of seeds, you'll want C. sativa of course.

Someone, either government or private industry, will have to draw up rules about whether certain types can be grown "elsewhere" and still be called "Mendocino Marijuana," just as with vintage grapes. There will also have to be some detailed rules over interstate and intercountry shipping, possibly (on the international level especially) with prohibitive and protective import or export duties and tariffs. If American farmers can grow Bangali better than they can in Bengal, it won't be long before they ask for protective tariffs. I can see the Indian or Bangla Desh representative to the United Nations standing up and saying, "Dare iss only ONE Bengali and iz not made in California."

The issue of seed regulation is crucial to the whole program. Ask any experienced grower what the first thing he needs is. "Good seed." So casting an eye into the future, there must sooner or later be some kind of regulations to ensure that when Snikker Sam sells me Guaranteed Maui Blossom Seeds, I don't end up with a backyard full of C. ruderalis.

For fun reading on the subject of seeds, try G. Washington. That was his biggest concern-- collecting enough seeds of a reliable hemp to ensure that he could plant the following year. He imported them from as far away as Poland and New Zealand!

Let's see now. We're growing sinsemilla in the moutain backs, bhang in long cultivated gardenous plots, tall hemp fiber for cloth and paper on the mesa, and heavily seeded plants on the plains--each a slightly different agronomic technique and each with a massively different distribution system. We've creamed the ganja for cannabinoid medicine and made lotions out of the lower male leaves, otherwise sold for bhang. We've extracted the shining bast fibers from C. sativa stalks by retting-- incidentally, braking and retting hemp is grueling slave work and there will be a tangent industry, started by Tom Jefferson, trying to invent better hemp-braking and retting equipment-- and we've mashed the lower-quality seeds for oil. What's left is a big pile of cellulose pulp, so hard it can't be broken except by the local Karate champion, but when left in stagnant water (retted) for a couple weeks is just a mush slush slime. We've got 30 tons of the stuff sitting in the back yard. Normally we'd give it to the paper mill at a penny a ton, but they're all full up this week because the harvest just came in.

Hempahol. Any cellulose pulp can be squeezed, rollered, and dried into paper. But if there's not enough demand (for any reason) for paper pulp-- for example if the papermakers "discover" that even better paper can be made by recycling old hemp paper and rags--then the best thing to do is to use the pulp mush in a still for making gasohol. This is an area in which no research has been done, but it looks promising. I predicted in The Book of Predictions that "gasohol made from hemp hurds could replace gasoline overnight." It's the ideal mop-up industry for leftovers. And might even dovetail with a marijuana liqueur or wine industry.

SOME ECONOMIC PERSPECTIVES ON THE REGULATION AND TAXATION OF CANNABIS

by

William Orzechowski, Ph.D.

The purpose of this paper is to outline the benifits and costs associated with cannabis regulation. By "regulation" is meant a system of legal control, such as now exists for products like wine or tobacco, as opposed to the current system of across-the-board prohibition. People concerned with public policy and the enforcement of marijuana laws often overlook the economic effects of illegal markets, and it is important to consider carefully the economic impact of any change in this nation's approach to the control of cannabis.

The analysis starts by noting the effects of regulation in terms of the supply and demand for cannabis. This will then be related to the potential costs and benefits of such policy, from the perspective of the consumer, producer and government.

Using the economist's basic supply and demand model, a predictable result of regulation will be a lower price, across the board, for cannabis. This will occur regardless of whether or not people turn to cannabis who are not now using it. This occurs because the production cost of cannabis, including a normal or average return for profit, is but a small fraction of the price paid by the consumer today. In a regulated system, many producers, using modern production techniques, will enter the market until price equals production cost plus a normal rate of return. This, of course, has to be adjusted upwards depending upon the type of regulatory model used. If, for example, regulation is combined with a system of excise taxes and producer licenses, as is the case with alcohol and tobacco, and as is contemplated by the Cannabis Revenue Act, the price would be higher than would emerge in a truly free or open market (i.e., "legalization") for cannabis. Nevertheless, price would be predictably lower than under current law.

In this regard, it is useful to employ a comparison of cannabis prices found in an open market relative to the United States. In Nepal, high-quality marijuana law be purchased for about two cents per ounce, while the price in the United States might run as high as $40 for the same quality and quantity. Thus the relative price of the Nepalese is 1/2000 of the U.S. price.[1] This indicates that, except for an extremely restrictive regulatory model, prices will fall. It also indicates that policymakers possess enormous discretion in the determination of price.

The lower price for cannabis will likely correspondingly increase demand.[2] The precise extent of this effect, however, is difficult to estimate. It depends upon a variety of factors such as the unique desirability of the product, the extent to which it can be used as a substitute for other intoxicants, and the type of regulatory model used.

While these results are, more than likely, obvious to most, the actual benefits and costs of regulation to the consumer,

producer, and government is much more complicated. However, a reasonable assessment of these effects leads to the conclusion that the negative consequences of cannabis regulation are often exaggerated in popular discussion.

Beginning with the consumer, there are a number of important benefits to be derived from regulation. First, the consumer will be able to purchase the product at a lower price. This allows consumers to allocate an extra portion of their incomes to other products. In effect, regulation means more efficient production and therefore, more resources for other uses. Secondly, the quality of the distribution process will increase enormously. No longer will consumers have to fear "shoddy" products that could imperil health. Simply put, legal markets minimize the chance of "bathtub gin" because sellers are identifiable, and are, therefore, openly subject to public accountability and the rigors of competition. This is especially beneficial to the middle class, the class that economists often argue are most likely to consume inferior products in an illegal market. The reason for this is that upper income earners can afford to purchase superior products regardless of market structure, i.e., legal or not. On the other hand, it is argued that lower income groups receive lower wages, receive greater amounts of public assistance and have less commitment to higher quality goods and products.

As a consequence, the opportunity cost (salary foregone) of searching for better deals in illegal markets is much lower for lower income groups.[3] This phenomenon is likely to provide increased voter support for regulation since a rising tide of young and middle age professionals have a preference for cannabis over other euphorics, especially alcohol. Lastly, cannabis regulation gives the consumer a chance to substitute another intoxicant for elements of the standard diet of alcohol, cigarette and barbituates. Public policy has unwittingly reduced the relative price of alcohol by raising the price of cannabis through illegality.[4] Since many experts consider alcohol to be a far more dangerous substance than cannabis, the post-1930's anti-cannabis policy may have actually damaged rather than improved health by encouraging people to use alcohol instead.

Turning to the producer side of the market, substantial benefits are likely to be received by those individuals who have the resources and relative expertise to produce cannabis under legal conditions. This is likely to be of great benefit to important segments of the U.S. farm industry. Cannabis represents a potentially large cash crop, in terms of consumption and derivative industrial uses. However, there are likely to be sizeable costs also, namely, jobs and income lost by those who do business in the underground economy. The "Florida Connection" would cease to exist. As a consequence, criminal syndicates and independent operators would experience severe losses. To the extent that most citizens have negative attitudes toward these groups, then not much social cost is involved. Nevertheless, the underground industry has a great incentive to play an important role in keeping cannabis illegal. Lastly, to the extent that lower prices free income for other products, other industries will accordingly benefit, with the notable exception of the alcoholic beverage industry.

Finally, one must assess benefits and costs from the perspective of the government. Unfortunately, this is not an obvious calculation since the government means all of us, and thus means many diverse groups of citizens, spanning consumers to wary parents. Of one takes a macroeconomic or aggregate perspective for government, however, there are a variety of fiscal benefits to be derived. First, regulation would mean a greater source of revenue to the various levels of government because the current and sizeable underground

income flows would be diverted from illicit drug dealers to the public treasury instead, in the form of taxation. It has been observed that the marijuana is one of the largest tax-exempt industries in the country today, and regulation would end that exemption. Secondly, the government at all levels would be able to re-direct a substantial portion of its crime prevention resources to other, more socially damaging crimes, like crimes against people and property. Third, it will discourage welfare fraud by individuals who earn sizeable but unreported incomes in the underground economy and at the same time claim welfare or unemployment benefits. Lastly, there are also sizeable costs at the aggregate level that relate mainly to the enforcement side of the "cops and robbers" game. Just as the underground economy will suffer by regulation, so will the incomes of those who police the "drug scene." Not only drug enforcement agencies, but also "treatment and prevention" bureaus who consider all cannabis use to be abuse, will face reduced budgets. (An interesting question exists as to whether the administration of a regulatory model would provide employment opportunities for these people.) Again, these factors, while seemingly innoculous, are nevertheless vitally important in our increasing political and bureaucratized state which has, over the years, gradually eroded the liberties so valiantly fought for and established by our founding fathers.

In summary, it is difficult to empirically calculate the impact of regulation from the perspective of the diverse groups that make up the electorate. There are simply no easy answers because much of the controversy is related to scientific evidence concerning the possible damage that cannabis can bring to personal health. There are literally mountains of evidence that indicate that cannabis is the least damaging of euphoriants,[5] in which case regulation provides an opportunity for some to substitute a mild substance for harsher euhoriants, like alcohol or barbituates. Given the financial and emotional stakes on all sides of the issue --as well as a notable lack of agreement over what the issue actually is--this impasse is not likely to be resolved on a formal scientific basis. We have only the experience of many years of drug enforcement to rely upon. From this perspective, it would be quite difficult to argue that the pre-Harrison Act era of the 19th Century was any worse than the contemporary experience with massive and costly drug enforcement.[6] In the end, our public regulation of cannabis may reveal the same truths that our costly experiment with big government has brought into focus, namely, that the most intelligent decisions are made by individuals who are free to choose within the context of an open market.

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FOOTNOTES

[1]See, Miller, Roger Leroy, The Economics of Public Issues, Harper and Row, Fourth Edition, p. 25.

[2]Informal economics terminology. This would refer to the elasticity of demand and possible shifts of the demand curve.

[3]Ibid., p. 26.

[4]The substitution aspects of drug use are analyzed by the author in Orzechowski, W., "Some Economic Perspectives on Government Drug Policy," Policy Report, March 1981, The Cato Institute.

[5]Brecher, Licit and Illicit Drugs, Little, Brown and Co., Boston, 1972.

[6]Ibid., Brecher.

A MEMORIAL TO CONGRESS

A memorial to Congress is a resolution of a state legislature calling upon Congress to take some action. It is addressed to the Speaker of the House of Representatives and the President of the Senate. It is usually in the form of a formal resolution setting forth succinctly what the legislature believes that Congress ought to do, and the reasons. Officially, it is the standard means of communication between states and Congress. Memorials are often submitted, moreover, by citizens' organizations.

The Congress receives a great many memorials urging specific action on issues ranging from military spending to prayer in public schools. Unlike petitions or letters sent to individual Members of Congress, a memorial is officially received by the Congress and made a permanent part of the record.

Memorials have played a significant role in shaping law and policy in the United States, by stimulating the debate of troublesome issues that many lawmakers prefer to avoid. A notable example is the public effort that led to the Fourteenth Amendment to the Constitution, once and for all putting an end to one of the most pernicious chapters in this nation's history, slavery.

The Task Force has prepared the following memorial as a prototype for state legislatures to urge the Congress to re-think marijuana policy, and to permit the states to regulate and tax the cannabis industry. Other organizations, like PTAs, Rotary Clubs, student bodies, taxpayer organizations and other public interest groups can adapt this form to their own particular views. Upon formally adopting and forwarding their memorials to Washington, such groups will have the satisfaction not only of helping to solve an important social problem, but at the same time becoming part of the documentary history of this country.

MEMORIAL

WHEREAS, widespread trafficking in illicit drugs is of serious concern to the people of [state]; and

WHEREAS, the preponderance of illicit drug trafficking is in marijuana, which is used by many otherwise law abiding citizens; and

WHEREAS, current policy and enforcement efforts at both state and federal levels have failed to eradicate marijuana trafficking or suppress its widespread use; and

WHEREAS, large private fortunes are accumulated from commerce in marijuana in defiance of the law and the integrity of civil government; and

WHEREAS, the underground cannabis industry perniciously escapes its revenue obligation to the public treasury; and

WHEREAS, legal prohibition of marijuana use has precluded effective measures to prevent its abuse or to encourage responsibility in its use by those who choose to use it; and

WHEREAS, government must not presume upon itself the responsibility for the personal decisions of adults that do not violate the rights of others;

NOW, THEREFORE, in order to curb marijuana abuse, control commerce in cannabis within its borders and to help restore law and order to the State of [state],

BE IT RESOLVED

That the [Senate] of the State of [state] memorializes the Congress of the United States to grant to [state] and its sister states lawful authority to regulate marijuana cultivation and commerce, and to adopt such policies on marijuana to best serve the people of each state, through regulation, taxation, public health controls, education, law enforcement and penology;

BE IT FURTHER RESOLVED

That this resolution be sent to the Speaker of the House of Representatives of the United States, the President of the Senate of the United States, the President of the United States, and to each member of the Congress from [state], attesting the adoption of this resolution by the [Senate] of the State of [state].

THE CANNABIS REVENUE ACT

D I S C U S S I O N D R A F T

BRACKETS [ ] INDICATE OPTIONAL OR ARBITRARY PROVISIONS

97th Congress
1st Session

H.R. _____

IN THE HOUSE OF REPRESENTATIVES

Mr./Mrs./Ms. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Internal Revenue Code to tax and regulate the interstate and foreign commerce in Cannabis, to amend the Controlled Substances Act to delete marijuana and for other purposes.

BE IT ENACTED by the Senate and House of Representatives of the United States of America in Congress assembled,

That Title 26 of the United States Code is amended by inserting following Chapter 53 a new chapter to read as follows:

TITLE 26, UNITED STATES CODE
SUBTITLE E, EXCISE TAXES
CHAPTER 54, CANNABIS

Subchapter

A. Short title; statement of policy; definitions.
   §5901. Short title
   §5902. Statement of policy
   §5903. Definitions

B. Administration.
   §5904. Administration

C. Licenses.
   §5921. Unlawful businesses
   §5922 Licenses requirements and qualifications
   §5923. Exemptions
   §5924. Commercial cultivation, possession and trading of cannabis

D. Revenue.
   §5931. Imposition of tax
   §5932. Liability, determination and method of payments
   §5933. Exemption from taxation
   §5934. Credit, refund or allowance of tax
   §5935. Losses caused by a disaster
   §5936. Disposition of revenue

E. Advertising.
   §5941.

F. General Provisions.
   §5951. Application to states and territories
   §5952. Separability
   §5953. Unfair competition and unlawful practices

G. Enforcement.
   §5961. Inspection
   §5962. Criminal penalties
   §5963. Civil penalties
   §5964. Detention of containers
   §5965. Disposition and release of seized property
   §5966. Forfeiture of cannabis not stamped, marked or branded as required by law
   §5967. Burden of proof in cases of seizure of cannabis
   §5968. Penalty for having, possession or using cannabis or property intended to be used in violating provisions of this chapter

SUBCHAPTER A - SHORT TITLE: STATEMENT OF POLICY: DEFINITIONS

§5901. Short title. This chapter shall be called The Cannabis Revenue Act of 198___.

§5902. Statement of policy. It is the policy of congress and the purpose of this chapter to establish a comprehensive federal program to regulate the commerce in cannabis in the United States whereby
(a) the abuse of cannabis is diminished;
(b) the use of cannabis by children is curtailed;
(c) the public health is protected by regulating the purity of cannabis in commerce;
(d) illegal trafficking in cannabis is eliminated;
(e) the commerce in cannabis is taxed sufficiently to generate revenue commensurate to its place in the national economy;
(f) national resources shall no longer be diverted to ineffective law enforcement policy on cannabis;
(g) medical research on cannabis is encouraged and barriers to the emergence of a domestic hemp industry are removed.

§5903. Definitions.
(a) the term "cultivation" as used in this chapter means the propagation, nurture and harvest of cannabis.
(b) The term "processor" as used in this chapter means the person who engages in the business of the cleaning, testing, preparation, packaging and labelling of cannabis for sale.
(c) The term "cannabis" as used in this chapter means any part of the species Cannabis sativa L. or any species thereof, including Cannabis indica, Cannabis ruderalis, or any other variety of the species Cannabis sativa L. whether growing or not; the seeds thereof, and resin extracted from any part of the plant, its seeds or resin. The term does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt derivative, mixture or preparation of the mature stalks except the resin extracted therefrom fiber, oil or cake or the sterilized seed of the plant which is incapable of germination.
(d) The term "trade" as used in this Act means the sale, transfer, importation, exportation, or distribution for any kind of consideration, of cannabis, whether by wholesale or retail and includes speculation, or trading in contracts for future delivery or purchase of any quantity of cannabis.
(e) The term "secretary" as used in this chapter means the Secretary of the Treasury.
(f) The term "commercial" as used in this chapter means of or related to a non-gratuitous exchange; with consideration.
(g) The term "United States" as used in this chapter means the several States and Territories and the District of Columbia; the term "State" includes a Territory and the District of Comumbia.
(h) The term "wholesale" means the sale or transfer to a retailer, or sale or transfer for purposes other than human consumption.
(i) The term "purity" means freedom from substances not indigenous to cannabis, except for water.
(j) The term "gratuitous" means without consideration; non-commercial. Transfer contemporaneously with the sale or tendering for sale of any goods, services or other things of value, shall be deemed not gratuitous.

SUBCHAPTER B - ADMINISTRATION

§5904. Administration.
(a) The Secretary of the Treasury shall enforce this chapter.
(b) The Secretary is authorized and directed to prescribe such rules and regulations as may be necessary to carry out the provisions of this chapter.
(c) The Secretary is authorized to require in such manner and form as shall be prescribed, such reports as are necessary to carry out his powers or duties.
(d) Not later than March 1 of each year following the effective date of this chapter, the Secretary shall submit to the Speaker of the House of Representatives and the President of the Senate a comprehensive and detailed written report with respect to the cultivation, processing, storage, handling and distribution of cannabis subject to the provisions of this chapter, the inspection of establishments operated in connection therewith and recommendations for legislation to improve the regulation of cannabis.
(e) The Secretary shall by regulation prescribe the types or kinds of containers which may be used to contain, store, transfer, convey, remove or withdraw cannabis prior to packing for sale at retail.
(f) In carrying out his duties prescribed by this chapter, the Secretary shall consult with the Secretary of Health and Human Services, or his designee, for the purpose of achieving the policy objectives of this chapter.

SUBCHAPTER C - LICENSES

§5921. Unlawful businesses.
(a) It shall be unlawful, except pursuant to a license issued under this chapter by the Secretary, and in compliance with the regulations promulgated under the authority of this chapter,
1. to cultivate cannabis for other than personal use;
2. to process cannabis for other than for personal use;
3. to distribute cannabis for consideration to any person;
4. to possess, cultivate or process cannabis with intent to distribute for consideration to any person;
5. to otherwise be engaged in commerce in cannabis for consideration.
(b) For purposes of this section, "personal use" shall mean the consumption of cannabis by a person or members of his immediate household and donees. The possession of in excess of the greater of
1. [25] cannabis plants; or
2. [5] pounds of crude cannabis
shall raise the rebuttable presumption that possession is not for personal use.

§5922. License requirements and qualifications.
(a) Applications for license. Every person, before commencing business as a cultivator, processor or trader of cannabis, and at such other time as the Secretary shall by regulation prescribe, shall make application for and obtain the appropriate license prescribed by this subsection. The application shall be in such form as the Secretary shall prescribe and shall set forth, truthfully and accurately, the information called for on the form. Applications shall not be denied without notice and a hearing at which the Secretary or his designee finds by a preponderance of the evidence that such applicant has failed to disclose any material information required or made any material false statement in the application therefor; provided, however, that no license under this chapter shall be issued to any applicant who has not reached the age of [18] years.
(b) Conviction of any cannabis-related offense under state or federal law, prior to the effective date of this Act, shall not disqualify any applicant.
(c) Cannabis licenses issued pursuant to this chapter shall expire upon the [2nd] anniversary of the issuance thereof, unless renewed.
(d) The surviving spouse or legal representative of a deceased non-corporate licensee may continue to exercise the license for 30 days following the death of the licensee, but thereafter only with the written consent of the Secretary, which consent shall expire, if not sooner revoked, [15] months from the date of death. Consent shall be withheld unless the said surviving spouse or legal representative meets the qualifications prescribed by this chapter for the type of license sought to be retained.
(e) The Secretary, his agents and employees, may, during reasonable business hours and without notice thereof, conduct such inspections of the licensed premises, including the books, records and accounts of the licensee, as he shall deem appropriate for the enforcement of this chapter.
(f) Appeals. Any person aggrieved by an action of the Secretary shall have such recourse as provided in the Administrative Procedure Act, Title 5 , Subtitle ____ of the United States Code.
(g) Sale or distribution of cannabis by vending machine or similar automation is prohibited.
(h) The Secretary shall report to the congress any matters which require immediate changes in this chapter in order to prevent abuses and evasions of this chapter or the rules and regulations promulgated thereunder or to rectify undesirable conditions with the administration of this chapter.
(i) For the five years next following the enactment of this chapter, the Secretary shall carry on a continuous study and investigation of cannabis commerce in order (1) to ascertain any defects in this chapter or in the administration thereof or any evasion of said law or said rules and regulations as may arise or be practiced, and (2) to formulate recommendations for changes in said law and the rules and regulations promulgated thereunder to prevent such abuses and evasions, and (3) to guard against the use of said law and regulations issued thereunder as a cover for the carrying on of criminal activities. Such study and investigation shall thereafter be conducted every five years.
(j) No license issued under this chapter shall be transferrable to any other person, except in accordance with the subsection (d) of this section concerning death of the licensee.

§5923. Exemptions. The prohibitions contained in sections 5921(a)(3), 5921(a)(4) and 5921(a)(5) shall not apply to a common carrier or freight forwarder for hire.

§5924. Commercial cultivation, processing and trading of cannabis.
(a) Cultivation.
1. The Secretary shall issue cultivation licenses to any person who shall meet the requirements prescribed in §5922 of this chapter.

2. The holding of a commercial cultivation license shall be conditional upon conformity with this chapter and the regulations promulgated hereunder.

3. It shall be unlawful for the holder of a cultivation license to distribute cannabis commercially to any person not holding a current license issued by authority of this chapter. A copy of the license bearing the seal of the Secretary shall constitute prima facie evidence of such license. Except in case of conspiracy or accomplice liability, holders of a commercial cultivation license shall not be liable for the acts of transferees in violation of this chapter. For purposes of this provision, transfer is accomplished when the cultivator completes his performance with reference to the physical delivery of the cannabis, despite any reservation of a security interest and even though a document of title is to be delivered at a different time or place.

(b) Processing.

1. The Secretary shall issue processing licenses to any person who shall meet the requirements prescribed in §5922 of this chapter.

2. The holding of a processing license shall be conditional upon conformity with this chapter and the regulations promulgated hereunder.

3. No processor shall distribute packaged cannabis the package of which fails to bear a permanent label containing the following information, in such style and form as the Secretary may prescribe:

a. the identity of the contents by species and variety;

b. the name and place of business of the processor;

c. the following statements:

(1) [Caution: smoking any substance irritates the mouth, throat, breathing passages and lungs, and may be harmful to other organs, Inexperience or overdose may cause confusion or disorientation. Do not use around or when operating hazardous equipment. Do not use during pregnancy. The operation of a motor vehicle under the influence of cannabis, alcohol, or any other intoxicant is a serious crime, and may result in the loss of your license to drive.]

d. the net quantity of contents in terms of dry weight by grams;

e. potency as expressed as the percentage of THC by dry weight, without seeds;

f. such marketing or branding as shall prevent deception of the consumer with respect to the contents or the quality thereof.

4. The ~~Administrator~~ Secretary shall promulgate regulations concerning the labelling of cannabis:

a. as will prohibit deception of the consumer with respect to such cannabis or the quantity thereof and as will prohibit, irrespective of falsity, such statements relating to age, cultivation processes, analyses, guarantees and scientific or irrevelant matters as the ~~Administrator~~ Secretary finds to be likely to mislead the consumer;

b. as will prohibit statements on the label that are disparaging of a competitor's products or are false, misleading. obscene or indecent;

c. as will prevent deception of the consumer by use of a trade or brand name that is the name of any living individual of public prominence, or existing private or public organization, or is a name that is in simulation or is an abbreviation thereof, and as will prevent the use of a graphic, pictorial or emblematic representation of any such individual or organization, if the use of such name or representation is likely to lead the consumer to believe that the product has been endorsed, made or used by, or produced for, or under the supervision of, or in accordance with the specifications of, such individual or organization. Provided, that this clause shall not apply to the use of the name of any person engaged in business as a cultivator, processor, distributor, importer or retailer of cannabis, nor to the use by any person of a trade or brand name used by him or his predecessor in interest prior to the effective date of this chapter, including regulations requiring, at time of release from customs custody, certificates issued by foreign governments covering origin, age, and identity of imported cannabis. Provided further, that nothing herein nor any decision ruling or regulation of any department of the Government shall deny the right of any person to use any trade name or brand of foreign origin not presently effectively registered in the United States Patent and Trademark Office which has been used by such person or predecessor in the United States for a period of at least five years last past, if the use of such name or brand is qualified by the name of the locality in the United States in which the product is produced, and, in the case of the use of such name or brand on any label or in any advertisement, if such qualification is as conspicuous as such name or brand.

5. It shall be the duty of processing licensees to analyze and test cannabis intended for distribution and to determine potency of such cannabis for the purpose of labeling.

6. It shall be unlawful for any processing licensee to distribute or commercially possess for more than 24 hours any package containing cannabis which fails to bear a tax stamp or such other documentation as the Secretary may prescribe as evidence that the revenue imposed by this chapter has been paid.

7. The provisions of subsections (3), (4) and (5) shall not apply in the case of transfer of unpackaged cannabis between licensed processors.

8. Before any license required by this section is granted to a processor, the Secretary may require a bond in such form and amount as he may prescribe to insure compliance with the terms of the license and the provisions of this chapter.

9. It shall be unlawful for the holder of a processing license to distribute cannabis to any person not holding a current license issued by authority of this Act.

10. No holder of a processing license shall affix the tax stamps or such other documentation that the Secretary may require pursuant to subsection (4) to any package containing cannabis which contains a dilutant, retardant or accellerator, preservative or any additive of any kind, the effect whereof is to reduce the purity of cannabis to less than 100%.

11. A processing licensee who takes possession of processed cannabis imported into the United States shall comply with all requirements set forth in this subsection.

12. It shall be unlawful for any person to alter, mutilate, destroy, obliterate or remove any mark, brand or label upon cannabis held for sale in interstate or foreign commerce or after shipment therein, except as authorized by federal law or except pursuant to regulations of the Secretary authorizing relabeling for purposes of compliance with the requirements of this subsection.

(c) Commercial trading.

1. The Secretary shall issue trade licenses to any person meeting the qualifications of §5922 for the sale of cannabis at retail.

2. It shall be unlawful for the holder of a trade license to sell, offer for sale or otherwise transfer with consideration cannabis to any person who has not reached the age of 18 years or who is intoxicated.

3. Before any license required by this section is granted to a trader, the Secretary may require a bond in such form and amount as he may prescribe to insure compliance with the terms of the license and the provisions of this chapter.

[OPTION ONE]

[4. Research license. The Secretary shall issue research licenses for the conduct of bona fide medical, social, behavioral or other research upon such terms and conditions as he shall prescribe consistent with the purposes of this Act as set forth in §5902.]

OPTION TWO

[4. Research license. Under such regulations as the Secretary may prescribe and on the filing of such bonds and applications as he may require, any scientific university, college of learning or institution of scientific research may produce, process, receive, blend, treat, test and store, without payment of tax, for experimental or research use but not for consumption (other than organoleptic tests) or sale, in such quantities as may be reasonably necessary for such purposes.]

SUBCHAPTER D - REVENUE

[§5931.

(a) Imposition of tax. Subject to adjustment as provided herein, there is hereby imposed on all cannabis sold in or imported into the United States a tax at the rate of

1. [$20] per ounce of cannabis containing not more than 2% THC and a proportionate tax at the same rate on all fractional parts of an ounce of such cannabis;

2. [$25] per ounce of cannabis containing more than 2% but not more than 4% THC and a proportionate tax at the same rate on all fractional parts of an ounce of such cannabis;

3. [$35] per ounce of cannabis containing more than 4% but not more than 6% THC and a proportionate tax at the same rate on all fractional parts of an ounce of such cannabis.]

4. [$42] per ounce of cannabis containing more than 6% THC and a proportionate tax at the same rate on all fractional parts of an ounce of such cannabis.

(b) Adjustment of tax rate.

OPTION ONE

SUBOPTION A

[On March 1 of each odd-numbered year beyond the expiration of two years following the enactment of this chapter, the aforesaid tax rates shall be adjusted by the percent change in the cost of living, based on the "Revised (all urban consumer) Consumer Price Index-Cities (1967 = 100)," hereinafter called the Index, published by the Bureau of Labor Statistics of the United States Department of Labor. The Index number in the column entitled "All items" for the month of December next following the enactment of this chapter shall be the "base Index number" and the corresponding Index number for the month of December prior to the first day of March upon which adjustments are required to be made hereunder, shall be the "current Index number." The current Index number shall be divided by the base Index number. From the quotient thereof, there shall be subtracted the integer 1 and any

resulting positive number shall be deemed to be the percentage of increase in the cost of living. The percentage of increase multiplied by the tax rates prescribed herein shall be the increase required to be imposed on the sale of cannabis or importation into the United States of cannabis in accordance with the provisions of this chapter.]

SUBOPTION B

[On March 1 of each odd-numbered year beyond the expiration of two years following the enactment of this chapter, the aforesaid tax rates shall be adjusted by the percent change in the cost of living, based on the GNP implicit price deflator, computed and published as an annual rate by the Department of Commerce. The first adjustment shall reflect the percentage increase or decrease of the aforesaid GNP implicit price deflator purlished next prior to the date of such adjustment, compared to the GNP implicit price deflator published next prior to the enactment of this chapter. In subsequent odd-numbered years in which adjustment to cannabis tax rates are required to be made as prescribed herein, such adjustment shall be the precentage of increase or decrease in the GNP inplicit price deflator published next prior to the effective date of such adjustment, compared to the GNP implicit price deflator published next prior to the most recent adjustment in such cannabis tax rates. For purposes of this section, the term "GNP implicit price deflator" means the preliminary estimate of the implicit price deflator, seasonally adjusted, for the gross national product, as computed and published by the Department of Commerce for the next prior calendar year.

[OPTION] TWO

[§5931. The licensed processor shall remit to the Secretary [on a quarterly basis] [90%] of gross receipts from the sale of cannabis. For purposes of this provision, gross receipts shall include all consideration therefor, whether received by the processor or not.

§5932. Liability, determination and method of payments.

(a) Liability for tax. The processor of cannabis products shall be liable for the taxes imposed thereon by §5931.

(b) Determination and method of payment. The taxes imposed by §5931 shall be determined at the time of removal of the cannabis from the processor's premises. Such taxes shall be paid on the basis of a return. The secretary shall, by regulation, prescribe the period or event for which such return shall be made, the information to be furnished, the time for making the return, and the time for payment of such taxes. Any postponement under this subsection of the payment of taxes determined at the time of removal shall be conditioned upon the filing of such additional bonds, and upon compliance with such requirements, as the secretary may, by regulation, require payment of tax on the basis of a return prior to removal of the cannabis products when a person defaults in the postponed payment of tax on the basis of a return under this subsection or regulations prescribed thereunder. All administrative and penal provisions of this title, insofar as applicable, shall apply to any tax imposed by §5931.

(c) Use of government depositaries. The secretary may authorize Federal Reserve banks, and incorporated banks or trust companies which are depositaries or financial agents of the United States, to receive any tax imposed by this chapter, in such manner, at such times, and under such conditions as he may prescribe; and he shall prescribe the manner, time, and condition under which the receipt of such tax by such banks and trust companies is to be treated as payment for tax purposes.

(d) Assessment. Whenever any tax required to be paid by this chapter is not paid in full at the time required for such payment, it shall be the duty of the secretary, subject to the limitations prescribed in this chapter, on proof satisfactory to him, to determine the amount of tax which has been omitted to be paid, and to make an assessment therefor against the person liable for the tax. The tax so assessed shall be in addition to the penalties imposed by law for failure to pay such tax when required. Except in cases where delay may jeopardize collection of the tax, or where the amount is nominal or the result of an evident mathmatical error, no such assessment shall be made until and after the person liable for the tax has been afforded reasonable notice and opportunity to show cause, in writing, against such assessment.

§5933. Exemption from taxation.

(a) Cannabis for research purposes. The administrator, upon proper proof by duly accredited scientific authorities or agencies that they are about to engage in

or are engaging in research which requires the use of cannabis, may authorize the removal of cannabis from the processor's premises without tax stamps affixed and without the payment of tax, provided, however, any such packages shall be plainly marked, "For Research Purposes Only" and bear such other label as the secretary shall by regulation prescribe.

(b) Cannabis products released in bond from customs custody. Cannabis products, imported or brought into the United States, may be released from customs custody, without the payment of a tax, for delivery to a processor duly licensed to import cannabis, in accordance with such rules and regulations and under such bond as the secretary shall prescribe.

(c) Hemp. Processors of cannabis stalks or hemp shall be exempt from taxation under the terms of this chapter.

(d) Losses.

1. No tax shall be collected in respect of any cannabis lost or destroyed while in bond, except that tax shall be collected

a. in the case of loss by theft,if thesecretary shall find that the theft occurred with connivance, collusion, fraud or negligence on the part of the proprietor or other person responsible for the tax, or the owner, consignor, consignee, bailee, or carrier, or the agents of employees of any of them; and

b. in the case of voluntary destruction, unless the cannabis was destroyed under government supervision, or on such adequate notice to, and approval by, the secretary as regulations shall provide.

2. In any case in which the cannabis is lost or destroyed, whether by theft or otherwise, the secretary may require, by regulation, the processor or other person liable for the tax to file a claim for relief from the tax and submit proof as to the cause of such loss. In every case where it appears that the loss was by theft, the burden shall be on the processor or other person liable for the tax to establish to the satisfaction of the secretary, that such loss did not occur as the result of connivance, collusion, fraud, or negligence on the part of the proprietor, owner, consignor, consignee, bailee, or carrier, or the agents or employees of any of them.

(e) Packages of cannabis manufactured, imported, or packaged (1) for export from the United States or (2) for delivery to a vessel or aircraft, as supplies, for consumption beyond the jurisdiction of the Internal Revenue laws of the United States shall be exempt from the requirements of this chapter, but such exemptions shall not apply to cannabis manufactured, imported, or packaged for sale or distribution to members or units of the Armed Forces of the United States.

§5934. Credit, refund or allowance of tax.

(a) Credit or refund. Credit or refund of any tax imposed by this chapter shall be allowed or made [without interest] to the processor or trade licensee on proof satisfactory to the secretary that the claimant processor or trade licensee has paid the tax on cannabis withdrawn by him or lost by fire, casualty, or act of God, while in the possession or ownership of the claimant.

(b) Allowance. If the tax has not yet been paid on the cannabis products proved to have been withdrawn from the market or lost or destroyed as aforesaid, relief from the tax on such articles may be extended upon the filing of a claim for allowance therefor in accordance with such regulations as the secretary shall prescribe.

(c) Limitation. Any claim for credit or refund under this section shall be filed within six months after the date of the withdrawal from the market, loss, or destruction of the articles to which the claim relates, and shall be in such form and contain such information as the secretary shall by regulation prescribe.

§5935. Losses caused by a disaster.

(a) Authorization. Where the President has determined under the Disaster Relief Act of 1974, that a "major disaster" as defined in such Act has occurred in any part of the United States, the secretary shall pay [without interest] an amount equal to the amount of the Internal Revenue taxes paid or determined and customs duties paid on cannabis products removed, which were lost, rendered unmarketable, or condemned by a duly authorized official by reason of such disaster occurring in such part of the United States on and after the effective date of this section, if such cannabis products were held and intended for sale at the time of such disaster. The payments authorized by this section shall be made to the person holding such cannabis at the time of the disaster.

(b) Claims. No claims shall be allowed under this section unless

1. Filed within six months after the date on which the President makes the determination that the disaster referred to in subsection (a) has occurred; and

2. The claimant furnishes proof to the satisfaction of the secretary that

a. he was not indemnified by any valid claim of insurance or otherwise in respect of the tax, or tax and duty, on the cannabis products covered by the claim, and

b. he is entitled to payment under this section. Claims under this section shall be filed under such regulations as the secretary shall prescribe.

(c) Destruction of cannabis products. Before the secretary makes payments under this section in respect of the tax, or tax and duty, on the cannabis products condemned by a duly authorized official or rendered unmarketable, such cannabis products shall be destroyed under such supervision as the secretary may prescribe, unless such cannabis products were previously destroyed under supervision satisfactory to the secretary.
(d) Other laws applicable. All provisions of law, including penalties, applicable in respect of Internal Revenue taxes on cannabis products shall insofar as applicable and not inconsistent with this section, be applied in respect of the payments provided for in this section to the same extent as if such payments constituted refunds of such taxes.

[§5936. Disposition of Revenue. All monies received by the secretary under this chapter, whether by cannabis taxes, license or application fees, or other such fees as the secretary shall by regulation prescribe and collect, shall be distributed as follows:
(a) [ ]% to the federal treasury.
(b) [ ]% to such states as shall have elected to permit commerce in cannabis consistent with this chapter in such proportion as

SUBOPTIONS

- [the population of each state (as determined by the last decennial census) shall bear to the total population (as determined by the last decennial census) of all states allowing commerce in cannabis.]
- [the revenue derived from each respective state bears to the total revenue derived under this chapter, including fees and taxes.]

OPTION ONE

(c) Such revenues shall be distributed to the several states entitled under this section 90 days following the end of the fiscal year.
(d) Provided, however, that no state shall be eligible for revenue unless it permits commerce in cannabis and enacts and enforces appropriate provisions of law to
1. Regulate availability of cannabis to minors.
2. Prohibit the operation of motor vehicles under the influence of cannabis, based on quantitative standards for actual levels of impairment.
3. Secure to adults the privilege to possess and cultivate cannabis for personal use as defined in §5921 of this chapter.
(e) No state shall be eligible for revenue sharing hereunder which enacts laws imposing further restrictions on advertising, labeling or personal use as defined in this chapter.]

[OPTION TWO

[§5936. Disposition of revenue. All monies received by the secretary under this chapter, whether by cannabis taxes, license or application fees, or other such fees as the secretary shall by regulation prescribe and collect, shall be deposited to the general fund of the United States treasury.]

SUBCHAPTER E - ADVERTISING

OPTION ONE

[§5941. No person shall, directly or indirectly, personally or through any agent or employee, whether for consideration or gratuitously cause to be published in a newspaper or magazine distributed anywhere in the United States or to be broadcast or cablecas to a radio or television receiver in the United States, or to appear in any display signs or personal solicitation, or any manner of advertising, any advertisement or notice to promote or encourage the consumption or use in any way of cannabis. The preceding prohibition shall not apply to the following:
(a) Cannabis packages, crates, cartons and boxes of cannabis products, provided, however, that no such items shall be used for any display, ornament or fixture on the licensed premises.
(b) Logos contained in private correspondence or trade publications not intended for public distribution.
(c) A single notice reading "[Authorized Cannabis Outlet]," in a style prescribed by the secretary.]

OPTION TWO

[§5941. It shall be unlawful for any person engaged in business as a cultivator, processor, distributor, researcher or retailer of cannabis to publish or disseminate or cause to be published or disseminated by radio or television broadcast or cablecast, or in any newspaper, periodical or printed or graphic matter, any advertisment of cannabis, if such advertisement is in, or is calculated to induce sales in, interstate or foreign commerce, or is disseminated by mail, unless such advertisement is in conformity with such regulations to be prescribed by the Administator
(a) As will prevent deception of the consumer with respect to the products

advertised and as will prohibit, irrespective of falsity, such statements relating to age, origin, cultivation, processes, analyses, guarantees and scientific or irrevelant matters as the Administrator finds to be likely to mislead the consumer.
(b) As will provide the consumer with adequate information as to the identity and quality of the products advertised, the potency thereof, and the person responsible for the advertisement.
(c) As will prohibit statements that are disparaging of a competitor's products or are false, misleading, obscene or indecent.
(d) As will prevent statements inconsistent with any statement on the labeling of the products advertised. The prohibitions of this subsection and regulations thereunder shall not apply to the publisher of any newspaper, periodical or other publication, or radio or television broadcaster or cablecaster, unless such publisher or radio or television broadcaster or cablecaster is engaged in business as a cultivator, processor, distributor or retailer, or as an importer or wholesaler of cannabis.]

SUBCHAPTER F- GENERAL PROVISIONS

§5951. Application to states and territories.
(a) State law not contravened. Nothing in this act shall be construed as authorizing the possession, commercial distribution or possession of cannabis with intent to distribute commercially, in any state or territory in controvention of the laws of such state or territory.
(b) All cannabis transported into any State or Territory or the District of Columbia, and remaining therein for use, consumption, sale or storage therein, shall, upon the arrival within the limits of such State or Territory or the District of Columbia, be subject to the operation and effect of the laws of such State or Territory or the District of Columbia, enacted in the exercise of its police powers to the same extent and in the same manner as though such cannabis had been produced in such State or Territory or the District of Columbia, and shall not be exempt therefrom by reason of being introduced therein in original packages or otherwise.

§5952. Separability. If any provision of this chapter is declared unconstitutional, or the applicability thereof to any person or circumstances is held invalid, the constitutionality of the remainder of the chapter and the applicability thereof to other persons and circumstances shall not be affected thereby.

§5953. Unfair competition and unlawful practices. It shall be unlawful for any person engaged as a cultivator, processor, distributor, researcher or retailer of cannabis, directly or indirectly or through an affiliate to require, by agreement or otherwise, that any retailer engaged in the sale of cannabis purchase any such cannabis from such person to the exclusion in whole or in part of cannabis sold or offered for sale by other persons in interstate or foreign commerce, if such requirement is made in the course of interstate or foreign commerce, or if such persons engages in such practice to such extent as substantially to restrain or prevent transactions in interstate or foreign commerce in any such products, or if the direct effect of such requirement is to prevent, deter, hinder, or restrict other persons from selling or offering for sale any such products to such retailer in interstate or foreign commerce: (1) By acquiring or holding (after expiration of any existing license) any interest in any license with respect to the premises of the retailer; or (2) by acquiring any interest in real or personal property owned, occupied or used by the retailer in the conduct of his business; or (3) by furnishing, giving, renting, lending or selling to the retailer, any equipment, fixtures, signs, supplies, money services or other thing of value, subject to such exceptions as the Administrator shall by regulation prescribe, having due regard for public health, the quantity and value of articles involved, established trade customs not contrary to the public interest and the purposes of this subsection; or (4) by paying or crediting the retailer for any advertising, display or distribution service; or (5) by guaranteeing any loan or the repayment of any financial obligation of the retailer; or (6) by extending to the retailer credit for a period in excess of the credit period usual and customary to the industry for the particular class of transactions, as ascertained by the Administration and prescribed by regulations by him; or (7) by requiring the retailer to take and dispose of a certain quota of any of such products.

SUBCHAPTER G - ENFORCEMENT

§5961. Inspection. All premises and activities conducted under license issued pursuant to this chapter shall be subject to inspection [without notice] during reasonable hours. Cultivating, processing and storage of cannabis in violation of this chapter shall be subject to search and seizure in accordance with the Federal Rules of Criminal Procedure.

§5962. Criminal penalties.

(a) Whoever,

1. Engages in business as a cultivator, processor, distributor, researcher, importer, or retailer of cannabis without having a current license issued in accordance with this chapter; or

2. With intent to defraud the United States shall purchase, receive, possess, offer for sale or sell or otherwise dispose of, after removal, any cannabis upon which the tax has not been determined in the manner and at the time prescribed by this chapter or regulations thereunder; or

3. With intent to defraud the United States shall purchase, receive, possess, offer for sale or sell or otherwise dispose of, after removal, any cannabis which is not put up in packages as required under §5924 or which are put up in packages not bearing the marks, labels and notices, as required under this section;

shall, for each such offense, be fined nor more than [$_____], or imprisoned not more than [_____no.] years], or both.

(b) Whoever shall possess a quantity of cannabis in excess quantity as shall be for personal use as defined in §5921 of this chapter shall be fined not more than [$_____] or imprisoned not more than [_____no.] years], or both.

(c) Whoever shall, with intent to defraud the United States, destroy, obliterate, or deface any mark, label or notice prescribed or authorized by this chapter or regulations thereunder, to appear on, or be affixed to, any package of cannabis before such package is emptied, shall be fined not more than [$_____], or imprisoned not more than [_____no.] years], or both.

§5963. Civil penalties.

(a) Omitting things required or doing things forbidden. Whoever willfully omits, neglects or refuses to comply with any duty imposed upon him by this chapter, or to do, or cause to be done, any of the things required by this chapter, or does anything prohibited by this chapter, shall in addition to any other penalty provided in this title, be liable to penalty of [$1,000], to be recovered, with costs of suit, in a civil action, except where a penalty under subsection (b) may be collected from such person by assessment.

(b) Failure to pay tax. Whoever fails to pay any tax imposed by this chapter at the time prescribed by law or regulations, shall, in addition to any other penalty provided in this title, be liable to a penalty of [5] percent of the tax due but unpaid.

§5964. Detention of containers. It shall be lawful for an internal revenue officer to detain any package or other container containing or supposed to contain cannabis when he has reason to believe that the tax imposed by law on such cannabis has not been paid or determined as required by law, or that such package or container is being removed in violation of law; and every such container may be held by him at a safe place until it shall be determined whether the property so detained is liable by law to be proceeded against for forfeiture; but such summary detention shall not continue in any case longer than 72 hours without process of law or intervention of the officer to whom such detention is to be reported.

§5965. Disposition and release of seized property.

(a) Forfeiture.

1. Delivery. All cannabis forfeited, summarily or by order of court, under any law of the United States, shall be delivered to the Administrator of General Services to be disposed of as hereinafter provided.

2. Disposal. The administrator of General Services shall dispose of all cannabis which has been delivered to him pursuant to paragraph (1)

a. by delivery to such government agencies as have a need for such cannabis for medicinal or scientific purposes, or for any other official purpose for which appropriated funds may be expended by a government agency; or

b. by gifts to such eleemosynary institutions as, in his opinion, have a need for such cannabis for medicinal or other lawful purposes; or

c. by destruction.

3. Limitation on disposal. Except as otherwise provided by law, no cannabis which has been seized under any law of the United States may be disposed of in any manner whatsoever except after forfeiture and as provided in this subsection.

4. Regulations. The Administrator of General Services is authorized to make all rules and regulations necessary to carry out the provision of this subsection.

5. Remission or mitigation of forfeitures. Nothing in this section shall affect the authority of the Secretary, under the customs or internal revenue laws, to remit or mitigate the forfeiture, or alleged forfeiture, of cannabis, or the authority of the secretary, to compromise any civil or criminal case in respect of such cannabis prior to commencement of suit thereon, or the authority of the secretary to compromise any claim under the customs laws in respect to such cannabis.

(b) Distraint or judicial process. All cannabis sold by order of court, or under process of distraint, shall be sold subject to tax; and the purchaser shall

immediately, and before he takes possession of said cannabis, pay the tax thereon, pursuant to the applicable provisions of this chapter and in accordance with regulations to be prescribed by the secretary.
(c) Release of seized vessels or vehicles by courts. Notwithstanding any provisions of law relating to the return on bond of any vessel or vehicle seized for the violation of any law of the United States, the court having jurisdiction of the subject matter may, in its discretion and upon good cause shown by the United States, refuse to order such return of any such vessel or vehicle to the claimant thereof. As used in this subsection, the word "vessel" includes every description of watercraft used, or capable of being used, as a means of transportation in water or in water and air; and the word "vehicle" includes every animal and description of carriage or other contrivance used, or capable of being used, as a means of transporation on land or through air.

§5966. Forfeiture of cannabis not stamped, marked or branded as required by law.
(a) Unmarked or unbranded packages. All cannabis found in any container or package required by this chapter or any regulation issued pursuant thereto to bear a mark, brand or identification, which container or package is not marked, branded or identified in compliance with this chapter and regulations issued pursuant thereto, shall be forfeited to the United States.
(b) Unstamped packages or containers. All cannabis found in any container required by this chapter or any regulations issued pursuant thereto to bear a stamp, which container is not stamped in compliance with this chapter and regulations issued pursuant thereto, shall be forfeited to the United States.

§5967. Burden of proof in cases of seizure of cannabis. Whenever seizure is made of any cannabis found elsewhere than on the premises of a cannabis processing plant, or than in any warehouse authorized by law, or than in the store or place of business of a wholesale cannabis dealer, or than in transit from any one of said places; or if any cannabis found in any one of the places aforesaid, or in transit therefrom, which have not been received into or sent out therefrom in conformity to law, or in regard to which any of the entires required by law or regulations issued pursuant thereto, to be made in respect of such cannabis, have not been made at the time or in the manner required, or in respect to which any owner or person having possession, control or charge of said cannabis, has omitted to do any act required to be done, or has done or committed any act prohibited in regard to said cannabis, the burden of proof shall be upon the claimant of said cannabis to show that no fraud has been committed, and that all the requirements of the law in relation to the payment of the tax have been complied with.

§5968. Penalty for having, possessing or using cannabis or property intended to be used in violating provisions of this chapter. It shall be unlawful to have or possess any cannabis or property intended for use in violating any provision of this chapter or regulations issued pursuant thereto, or which has been so used, and every person so having or possessing or using such cannabis or property, shall be fined not more than [$5,000], or imprisoned not more than [1] year or both.

TREATY AND CONVENTION TERMINATION

Sec. 2. It is the judgment of the Congress that articles in treaties and conventions entered into by the United States, in so far as they provide for the prohibition of the cultivation, sale, use and importation of cannabis, and any other treaty provision in conflict with the provisions of this Act be denounced and terminated, and to this end the President be, and hereby is requested and directed, to give notice to the several governments, the United Nations and other appropriate international bodies, that all such treaties and conventions will terminate and cease to be of force on the expiration of such periods following notice of denunciation or abrogation provided for in such treaties and conventions.

Amendments to Title 18, United States Code

Sec. 3.
(a) Section 842(d) of Title 18, United States Code is amended by striking out in paragraph(3), "marihuana (as defined in §4761 of the Internal Revenue Code of 195) or."
(b) Section 842(i) of Title 18, United States Code is amended by striking out in paragraph(3) "marihuana (as defined in §4761 of the Internal Revenue Code of 1954) or."
(c) Section 922(d) of Title 18, United States Code, is amended by striking out in paragraph (3) "marihuana or."
(d) Sections 922(g) and (h) of Title 18, United States Code, are amended by striking out in paragraph (3) of each subsection "marihuana or."
(e) Section 2516 of Title 18, United States Code, is amended in paragraph (1)(a) by striking out "marihuana."

Amendments to Title 19, United States Code

Sec. 4. Section 1584(a) of Title 19, United States Code is amended in paragraph (2) in the second sentance by striking out "or marihuana," wherever it appears;

and in the last sentence of such paragraph by striking out "and marihuana," and striking out "those terms by sections 102(17) and 102(15), respectively," and inserting "that term by section 102(17);" and by striking out "terms" where it first appears and inserting "term" in lieu thereof.

Amendments to Title 21, United States Code

Sec. 5.(a) Section 102 of the Controlled Substances Act (21 U.S.C. 802) is amended by deleting paragraph (15) and redesignating all succeeding paragraphs.
(b) Section 202 of the Controlled Substances Act (21 U.S.C. 812) is amended by striking out in Schedule I(c)(10) "Marihuana," and redesignating succeeding paragraphs.
(c) Section 401 of the Controlled Substances Act (21 U.S.C. 841) is amended by

1. In subsection(b)(1)(A) striking out "marihuana."
2. In subsection(b)(1)(B) striking out "marihuana."
3. Striking out subsection(b)(4).
4. In subsection(b)(5) striking out "marihuana."
5. Striking out subsection(b)(6).
6. Redesignating subsection(b)(5) as sebsection(b)(4).

Amendment to Title 22, United States Code

Sec. 6. Section 2291(d) of Title 22, United States Code is amended by striking out all that follows after the word "plants" to the end of the section, and inserting a period in lieu thereof.

Amendment to Title 49, United States Code

Sec. 7. Section 787 of Title 49, United States Code (amended by Section 1102(r) of the Comprehensive Drug Abuse, Treatment and Prevention Act of 1970 (P.L. 19-513) is amended in subsection(d) by striking out "and shall also include marihuana as defined by section 103(15) of such Act."

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STATEMENT OF LEE I. DOGOLOFF, EXECUTIVE DIRECTOR, AMERICAN COUNCIL ON MARIJUANA AND OTHER PSYCHOACTIVE DRUGS, INC.

Good afternoon, Mr. Chairman and members of the subcommittee. It is a pleasure to appear before you in my capacity as the Executive Director of the American Council on Marijuana and Other Psychoactive Drugs, Inc. (ACM). Before joining the Council, I served on the White House staff from 1977 to 1980 as the President's principal adviser on drugs. I have also served as Director of the Division of Community Assistance at the National Institute on Drug Abuse and Director of Government Assistance in the White House special Action Office for Drug Abuse Prevention, as well as Deputy Administrator of the Narcotics Treatment Administration in Washington, D.C.

The American Council on Marijuana and Other Psychoactive Drugs is the only private, non-profit organization that translates scientific data about illicit drug use into language that is easy to understand. The Council was founded in 1977 and initially served as an information source for the growing parents' movement and others who were concerned about confusing information on drug abuse. As both the Council and its mission drew increased attention, the emphasis of its purpose expanded from individual technical assistance and local seminars to national efforts aimed at educating the public about the health hazards of illicit drug use. The Council's national efforts now include publications, conferences, speakers' resource kits, and media campaigns, all of which are supported by an operating budget derived from grants, contributions, and membership fees. During 1982, the Council's operating budget will approach a quarter of a million dollars.

The subject of today's hearing is the cultivation of marijuana on public lands. This issue, like the domestic cultivation of the plants, and the importation of marijuana from other countries, is part of an extremely serious problem: all produce adverse effects on health and impact negatively on our society.

We know that the major determinant of drug use is availability. The "hashish loafer" in India and the "Kif indigent" in Egypt are illustrative of what happens in countries where cannabis is cheap and accessible. This can happen to home-grown Americans too. One of the bitter lessons learned from Vietnam was that the average American was as susceptible to drug abuse as anyone. Over 40 percent of our soldiers used narcotics there and about 20 percent became addicted (Robins, 1973). The problem was so serious and so shocking that it helped spur the Federal war on drugs that was launched during the 1970's. The American G.I. was no longer the innocent abroad—he was a victim of the epidemiological equation; namely, availability plus low cost equals abuse.

That equation still holds today. It has been estimated that marijuana is the number one cash crop in the United States. Furthermore, enough of it is being cultivated on public lands to warrant this Congressional hearing. Because I have seen the scientific evidence on the adverse health effects of marijuana, and respond daily to requests for help from worried parents, frustrated teachers, and concerned physicians, I am convinced that a firm public policy on this issue is absolutely critical. Not only must we have specific policies restricting the availability of marijuana, but we must translate these words into vigorous, effective programs to prevent and eliminate cultivation. The absence of such policies and programs is tantamount to tacit approval of marijuana use.

For example, if teenagers can smoke pot in the school parking lot with impunity and the school lavatory becomes a smoking club where no one complains but the maintenance crew, youngsters interpret that inaction as a green light to continue their illegal and unhealthy behavior. We will be giving the same signal here—both to our children and to the marijuana entrepreneurs—if we fail to take firm actions.

Why am I so opposed to the continued, ready availability of marijuana? My concern is based on the known negative impact marijuana has on the health of our society. Please allow me to briefly review the data.

Marijuana is a plant (cannabis sativa) composed of 400 chemicals. When smoked, marijuana produces more than 2,000 separate chemicals, one of which, delta-9-tetrahydrocannabinol, or THC, has been identified as the principal cause of the marijuana "high."

Many of these chemicals do not pass quickly through the body. Instead, they are stored in the lungs, reproductive organs, and brain, and remain there for long periods of time. As a result, the smoker of one marijuana cigarette a week is never free of the drug, and a person who tries it only once carries traces of the chemicals 3 to 4 weeks later.

These chemicals have profound effects on the body. Marijuana not only disrupts the mental processes of thinking, learning and remembering, but also causes a

short-term increase in heart rate while at the same time decreasing blood supply to the user's heart. Marijuana also can impair sexual development, fertility, and sexual functioning. For men, there is a decreased level of testosterone, decreased sperm production, and an increase in abnormal sperm. For women, marijuana may cause increased menstrual irregularities and decreased ovulation.

Marijuana smoke contains more cancer-causing agents than tobacco smoke and, like tobacco, can produce sore throats, coughs, bronchitis and other serious breathing difficulties.

The marijuana "high" is caused by the action of THC on the user's brain. Initially, it can be a relaxing sensation which elevates the user's mood and self-image. It also can lower social and sexual inhibitions. With successive use, however, the euphoric mood changes to a quieter one, described by users as a "mellowing out," and then into a state of "wasting" which brings a deep lethargy. At this stage, most interaction with others stops.

For other users, the"high" is anything but pleasant. With a strong dose of marijuana there can be sudden feelings of panic, paranoia (the feeling everyone is against them), or deep depression that may lead to suicidal feelings. Irritability and irrational behavior with sudden bursts of unpredictable anger may occur. The changed reality can be frightening or depressing.

Regular marijuana users often develop a collection of symptoms known as the amotivational syndrome. This clinically-verified syndrome consists of a gradual loss of interest in school, recreational activities, or work, and is characterized by lethargy, and an inability to cope with frustration. At worst, chronic users can experience what marijuana users themselves have termed as "burnout," or a complete inability to function.

In addition, most chronic users of marijuana often add tobacco, alcohol, amphetamines, cocaine, or other drugs to their mind-altering diet.

Marijuana use is particularly dangerous for adolescents because it can prevent them from maturing physically, emotionally, and socially. They avoid problems, fail to learn from their previous mistakes, are unable to face challenges, and cannot learn to postpone immediate pleasures for more meaningful and lasting ones. They often fantasize and dream in an abnormal way; they are less likely to experience feelings of personal achievement or close friendships. Often they no longer feel a need for other people. Marijuana users participate in fewer of the emotional and psychological stages critical to growing up, and they may never "catch up" to the social, educational, or emotional levels of the non-user.

In addition to these problems, scientific studies prove that using marijuana impairs the ability to learn and the ability to handle complex tasks involved in driving and flying. This is not a problem of school-aged children alone. Five years after graduation from high school, only 15 percent of daily marijuana smokers had stopped use completely and just over 50 percent were still daily users. In 1981, nearly 80,000 people sought treatment in federally funded drug centers for problems associated with marijuana use. (CODAP, 1981). In its recently issued study on "Marijuana and Health" (December, 1981), the Institute of Medicine reported, "Our major conclusion is that what little we know for certain about the effects of marijuana on human health—and all that we have reason to suspect—justify serious national concern."

Illicit drug use is threatening the health of our society and our strength as an industrial nation. Drug abuse in the sports world (Sports Illustrated, June 14, and July 5, 1978) and armed forces made front page headlines. Illicit drug use in the workplace is widespread.

The extent of drug abuse in our nation is frightening: over one-third of America's young adults currently use illicit drugs; one out of every 14 high school seniors uses marijuana daily; in one California study, 16 percent of drivers arrested for unsafe driving had marijuana (THC) in their blood.

Moreover, drug trafficking involving over $80 billion a year seriously affects the U.S. economy, and Americans pay over $20 billion a year for lost productivity, accidents, and treatment services related to drug abuse.

The problem of drug abuse can be solved: attitudes and habits can be changed. Public opinion can be changed. For example, in an annual survey of high school seniors, slightly more than 30 percent of the Class of 1978 saw "great risk" in the regular use of marijuana. In the Class of 1981, however, nearly 60 percent of seniors felt that way. This increase in awareness of health hazards correlates to a substantial decrease in daily use of marijuana by high school seniors, although the numbers involved are still shockingly high. The primary goal of the American Council on Marijuana is to ensure that this trend continues downward. Any signal that can be interpreted as condoning use, could change the direction of that slope. Any decision

that ignores the epidemiological equation and thereby promotes the ready availability of marijuana, contributes to increased use. I submit that neither as individuals nor as a society can we afford the prospect of having such large numbers of Americans so severely impaired by the chronic use of marijuana.

STATEMENT OF WILLIAM A. DERR, REGIONAL SPECIAL AGENT, U.S. FOREST SERVICE, PACIFIC SOUTHWEST REGION, SAN FRANCISCO, CALIF.

MARIJUANA CULTIVATION ON THE NATIONAL FOREST SYSTEM

The use of the National Forests and other public Federal lands to cultivate marijuana has increased dramatically since 1978. Until 1978, most marijuana consumed in the United States was grown in other countries. Approximately 30 percent of the marijuana consumed in the United States in 1977 was produced in Mexico. In 1978 the herbicide Paraquat was introduced into part of the Mexican crop. Demand for and the price of marijuana which might have been contaminated fell sharply. The price of domestically-produced marijuana rose dramatically by 1979.

Hence public lands became a favored location to cultivate marijuana because of their remote nature and because the owner (the United States) was not culpable for maintaining the marijuana.

Cultural and genetic improvements have resulted in the development of sinsemilla (seedless) marijuana. The domestically produced marijuana has a THC level of 5.0 to 6.0 percent. The THC content determines the effect of marijuana use on the central nervous system. In comparison to the sinsemilla, the highest THC levels in imported marijuana is about 1.5 percent. In general, the street value of marijuana increases by the square of the increase in THC level. For example, marijuana containing 6.0 precent THC has a value of about 16 times the value of marijuana containing 1.5 percent THC.

Practically, individual marijuana plants at harvest on the most productive sites can have a value of up to $6,000 each. In 1981, marijuana valued at over $700 million was confiscated by local, state, and Federal law enforcement agencies throughout the National Forest system—$254 million in California. It is estimated that marijuana valued at over $2.1 billion of the U.S. crop (valued at $8.2 billion) was harvested by growers on the National Forest system. During 1981, the Forest Service and state and local agencies received over 800 reports of confrontations from visitors to the National Forests who were forced to leave particular areas.

On some sites, growers use state-of-the-art electronic surveillance devices to guard against intruders. The use of trained attack dogs is not uncommon. About 80 percent of the growers are armed during the growing season. Nearly all are armed at harvest time. Often, substantial investments are made in guarding the crop, controlling rodents, fertilizing the crop, controlling vegetative competition, and in many cases sophisticated irrigation systems are installed.

The majority of confrontations between forest visitors or Forest Service employees and the growers occur in August and September just prior to and during the harvest. At harvest, the marijuana has maximum value and the investment in the crop is at its maximum level. If the crop has been cut and organized for removal, a maximum effort is made to protect the crop.

In addition to the direct environmental effects of introducing and growing marijuana, growers frequently resist any intensive forest management practice in their areas of interest. Resistance to the application of herbicides is particularly strong. Just the possibility that marijuana contains a herbicide dramatically lowers its value. The growers and their supporters in some areas are armed with automatic rifles. In their areas, law enforcement officers must have large groups and be armed with weapons similar to the growers to enter and leave the areas safely.

Much of the marijuana is grown on National Forests where the local counties have the lightest population densities. Some of these counties have small sheriff's departments, some of which are relatively incapable of responding to one report of marijuana cultivation on public land, let alone several simultaneously. In some specific situations, the growers and related businesses represent a significant voting block, and local political support to reduce the illegal activity is weak. In specific areas marijuana cultivation is the principal source of income.

The National Forests are in proprietary jurisdiction. Therefore, the states and counties have exclusive jurisdiction over the laws of the states and counties on the National Forests. The assimilated crime act does not apply to proprietary jurisdiction. The Forest Service does not have initiating investigatory jurisdiction over Federal laws relating to controlled substances. Federal law enforcement agencies

which have jurisdiction over Federal controlled substance statutes have generally concentrated their efforts on the supply system rather than at the cultivation level.

The Forest Service has jurisdiction in a Secretary's regulation prohibiting any kind of work without a permit. While this regulation clearly applies to the unauthorized cultivation of marijuana, the maximum criminal penalties are 6 months in jail and a $500 fine. The Forest Service has authority to assist county, state, and other Federal law enforcement agencies on the National Forests. In some areas, very effective Forest Service assistance to their agencies in removing marijuana from the National Forests exists.

Unless conditions of supply/demand change dramatically the use of suitable Federal public lands to cultivate marijuana can reasonably be expected to increase.

CALIFORNIA MARIJUANA ERADICATION PROGRAM

Marijuana is one of the most frequently abused drugs in the United States. The cultivation and smuggling of marijuana are illicit industries which exceed an estimated $20 million annually in the United States. This untaxed and unregulated flow of cash forms a financial base for numerous other criminal enterprises. Violent crime is also often associated with such huge sums of cash. The takeover of legitimate businesses and the corruption of public officials are historically two uses of underworld cash.

Traditionally, Mexico and Colombia have been the sources of marijuana, however in recent years domestic commercial marijuana cultivation has supplied an increasing amount of the market demand. New growing techniques used by the domestic growers have resulted in a seedless strain of marijuana known as sinsemilla. The new technique of forced growth by preventing the pollination of the female plant produces a very high THC content exceeding that of hashish and approaching that of hashish oil. A single mature plant which has been properly cultivated to a height of 14 to 16 feet will yield one to two pounds of saleable material. Because of its great potency and availability, sinsemilla/marijuana has become highly sought after and commands a premium price of almost $2,000 a pound.

The Bureau of Narcotic Enforcement first became aware of this new domestic marijuana industry in late 1977, and in 1979 obtained a federal grant to help the Sheriffs of Mendocino, Humboldt, Del Norte and Lake Counties to address their problem. The grant was designed to fund overtime and travel expenses for sheriffs' officers and to explore the use of aerial surveillance to spot illegal cultivation sites. BNE, in conjunction with the U.S. Drug Enforcement Administration, developed training courses to provide the local officials the necessary expertise, as sheriffs' departments would bear the majority of the burden for crop identification and eradication.

During 1979, law enforcement agencies participating in the program identified some 868 fields or "gardens" where marijuana was being commercially cultivated. Of these, it was possible to physically inspect and destroy only 254 due to limits of available resources, especially manpower. Nonetheless, these 254 fields yielded nearly 30,000 marijuana plants with a total weight in excess of 52,000 pounds—26 tons!

In 1980, BNE met with sheriffs to plan for an expanded operation. Two 2-week sinsemilla observers schools were arranged to meet local law enforcement needs. BNA purchased specialized equipment such as 4-wheel drive trucks and chain saws to support local efforts. Additional DEA agents were committed to seize, under federal law, assets developed from illegal cultivation. Both DEA and BNE committed airplanes to the operation, for the use of light aircraft to spot crops had proven to be the most effective technique. The Western States Information Network (WSIN) and BNE worked to develop more sophisticated data collection procedures to further refine law enforcement's understanding of the expanding problem.

By the end of the 1980 crop year, 43 counties had reported seizures of 156,000 plants, almost 105 tons, and the arrest of over 1,000 suspects. Inquiries from other states became common as law enforcement pressure in California and user demand moved at least some of the problem to other parts of the Nation. BNE, in conjunction with WSIN and the State Drug Enforcement Alliance (a group of 26 state-level narcotic enforcement agencies from California to Florida to Maine) began to disseminate training materials and intellgence information to areas where the problem was migrating. Media interest became intense as ballot initative efforts (to reform the marijuana laws) began and public officials (many of whom were uninformed) speculated on the size and financial importance of the marijuana crop to local economies.

Early in 1981, BNE once again began coordination with DEA and sheriffs' departments for a greatly expanded effort. Based on preliminary intelligence information, seizures of two to threefold over 1980 were expected. Two more 2-week sinsemilla observers schools were scheduled to train additional officers. Evidence that domestic marijuana cultivation was quickly becoming a national problem was emphasized when the state narcotic agencies of Texas, Arizona, Mississippi and Louisiana requested places for their agents in the sinsemilla observers school. In May, BNE was asked to conduct a briefing in Nashville, Tennessee for chiefs of major U.S. police departments concerning domestic marijuana cultivation. In June, at the request of DEA, a BNE agent was dispatched to Florida to help state and federal authorities assess Florida's problem and develop a training program. To ensure a coordinated effort between law enforcement officials and district attorneys offices, BNE and the Attorney General's Special Prosecutions Unit conducted a training seminar for prosecuting attorneys from 20 counties concerning the specilized problems involved with marijuana eradication cases.

Later in 1981, in cooperation with WSIN, training seminars were conducted for Idaho, Washington and Canadian law enforcement agencies. BNE continued to conduct numerous public presentations concerning the problem and committed more resources to eradication efforts. Aerial support from two BNE and three DEA pilots provided the information by which a large percentage of 1981 seizures were made. Additionally, the United States Customs Service provided helicopter support which allowed a safer and more cost effective access to large crops in the more inaccessible areas of California's central coast. Predicted massive increases in seizures failed to materialize. Reports received by WSIN showed a decrease in tonnage seized of 103 to 95 tons, and the total number of plants seized dropped from 156,000 to 151,000. Decreases were particularly significant when compared to the increase of law enforcement resources committed to the program. Analysis indicates that the size of the problem in California may have peaked and that California's rapid response may have proved to be a powerful deterrent and forced growers to other states.

During the 1982 crop year the Bureau of Narcotic Enforcement has assigned 10 special agents and 2 aircraft to support the efforts of the sheriff's departments. These agents will be equipped with 4-wheel drive vehicles, chain saws and other equipment required to manually eradicate crops. One observers school and one prosecutors seminar are scheduled. These schools will be sponsored jointly by the Bureau of Narcotic Enforcement and the Drug Enforcement Administration. Representatives from 37 sheriff's departments have been trained in aerial observation and eradication techniques. BNE has additionally developed, and continues to provide, training materials which have been provided to law enforcement agencies throughout the state.

During June, BNE sent an agent to the Federal Training Center at Glynco, Georgia to help develop a regional training course for law enforcement agencies in the southeast United States. WSIN is working with Washington State officials to develop a regional training school for local officers to train them in aerial observation and eradication techniques. BNE will work with the WSIN staff and provide instructors for that school. The Western States Information Network will be the sole collector of seizure data during the 1982 crop year and will support the efforts of law enforcement agencies through intelligence gathering, dissemination, and developing graphic presentations for display during trails.

Federal agencies are making a significant effort to the 1982 program, both in direct financial support and by aggressive enforcement of federal statutes. The U.S. Forest Service has embarked on a program which will involve use of their law enforcement resources to eradicate crops and arrest violators, and are also providing financial support to sheriff's departments that have considerable amounts of U.S. Forest land in their counties. The U.S. Attorney's Office intends to use federal seizure statutes to seize, where appropriate, private lands which are being used for marijuana cultivation. Additionally, the U.S. Attorneys will prosecute selected cases where commercial amounts of cultivated marijuana are involved.

What began as a California problem is now national in scope. The Drug Enforcement Administration is targeting on 25 states. BNE will continue to closely monitor the California situation and work to identify the most effective ways to coordinate and potentiate local efforts. Two factors will weigh heavily on California's future marijuana cultivation problem. Federal agencies are now focusing their attention at destroying marijuana crops in source countries and interdicting shipments before they reach the United States. Should such efforts prove effective, smugglers could be expected to abandon traditional routes and delivery sites in the southeastern United States in favor of West Coast points which are far more difficult to monitor.

A reduction of foreign shipments could also encourage demand for additional domestic cultivation.

Source: California Attorney General's Office.

NEWTON COUNTY, JASPER, ARK.

Hon. S. I. HAYAKAWA,
Chairman, Senate Subcommittee on Drugs.

I received a telephone call from your aide, Jason Peltier, on September 21st, requesting my personal testimony before your subcommittee concerning the problems of combatting drug manufacturing and sale in my jurisdiction. In the Newton County area we have been fighting the illegal drug problem for about ten years. This fight has been mainly on the manufacturing level, although we combat the problem on the street level whenever we come across it. We work particularly hard to eradicate marijuana during the growing stages.

In Newton County, Arkansas, we have an area of 822 square miles, with the population of approximately 8,000. This means that we are dealing with a very rural area, which is heavily wooded and mountainous. The difficult terrain makes it ideal for the manufacturing and processing of marijuana. However, with the aid of local people we are able to seed out and destroy a high percentage of these crops, even though we are desperately short on manpower. Other than voluntary parttime help, we have two deputies and a sheriff.

In 1980, we destroyed approximately 9,000 marijuana plants with the assistance of the State Police and other local authorities. Approximately 50 percent of Newton County is National Forest or otherwise Federally owned, and this means that it is a recreational area for many people. If we cannot keep the drug situation under control, it will prove to be a terribly dangerous problem for these recreational areas. People will not be able to visit and enjoy the forests for fear of being maimed or killed by those involved in the growing and manufacture of these substances. At the present time, areas where marijuana is grown are booby-trapped by the growers. We have reports of dynamite charges connected to trip wires, shot-guns shells loaded in pipes with trigger-wires connected to them, shot-guns wired to trees, and other life-threatening traps. Obviously this is an acute danger to the public using these recreational areas as well as to the investigating officers.

Most of these growing operations are small, involving one or two people; if they become better organized, we will be facing even more horrendous problems. We are doing our best against increasing odds. In 1981, we destroyed 5,000 plants; and this year, to the present date, we have destroyed 4,000 plants, with the expectation of destroying 1,000 more by the year's end. We made 17 arrests for the manufacturing of illegal drugs in 1981; and this year we have made 7 arrests, with 4 arrests pending. These figures related only to the manufacture of illegal substances; not for possession or related acts. It is extremely difficult for us to cover this county for obvious reasons. We do not have either adequate funds or adequate manpower. But, we are also aware of the fact that the penal system does not adequately punish those guilty of manufacturing illegal substances. It is good to seek out and destroy marijuana crops, but this is not enough. We need a greater deterrent against these activities. The present system allows the expectation of great profit to outweigh the risk of possible arrest and punishment. We should weight the balance in the other direction.

In Newton County, we have received quite a lot of federal assistance this year, because of an event that took place in the spring. A National Forest Service employee was checking the timber in the National Forest and was run out of the area at gunpoint by marijuana growers. The National Forest Service were made aware that it is dangerous for their employees to work in the vicinity of illegal marijuana plots as it is for those people who visit and use this federal land for recreational purposes. We have worked with the National Forest Service and local law enforcement agencies in trying to obtain federal funds in order to seek out marijuana growers, particularly in the National Forest. On the local level, funding for this purpose is pitifully low; we have to seek our assistance from any departments we can. In Western Arkansas, the Law Enforcement Coordinating Council is also not well funded, but it is extremely important in helping local authorities.

This year, the Law Enforcement Coordinating Council rented a helicopter for the three or four counties in this area for 10 hours. In the 2½ hours Newton County was able to use this helicopter (a relatively short period of time) I was able to locate approximately 200 marijuana plants, which I had no idea were there, apart from

allegations made by other people to the effect that marijuana was being grown in that area.

Following the success of that flight I conferred with the National Forest Service, and they were able to elicit the assistance of the National Guard and their helicopters and the Drug Enforcement Agency. We searched several areas of the National Forests which had been indicated by informants as possible locations for marijuana plots. We discovered 800 plants. At a later date, we located approximately 75 plants, which had been missed on the previous flights. Helicopters are expensive to use, but they are the most effective means of locating marijuana fields in terrain such as ours. Such federal, state and local cooperation is extremely valuable, for local authorities just do not have the funding to stake out all the marijuana fields in order to apprehend the growers. In 1975, by using local, state and federal cooperation we located a large area of marijuana growing in the National Forest. As a result of this coordinated effort, we destroyed 113,000 plants. Thus only a concerted effort by local, state, and federal authorities can attack this problem effectively. With the help of federal agencies such as, National Park Service, National Forest Service, DEA, and the FBI we can eradicate this primary problem. Local authorities can be very helpful to the federal agencies in seeking out and staking out these fields. On the local level, we receive much information concerning the location of these fields, and we can point the federal authorities in the right direction. Without such local help, fighting this problem can be extremely difficult. Ironically, we receive the greatest amount of information at the local level, but we receive the least funding.

The Buffalo National River fights this drug problem continually in coordination with the Newton County Sheriffs department, they use horse patrol and vehicle patrol along the river. They try to develop informants to get good solid information on drugs on National Park lands and along its boundaries. My recommendations concerning a successful and concerted attack on these problems are set forth in the two following areas:

1. The necessity to coordinate and strengthen cooperation between federal, state, and local law enforcement agencies. This could possibly be implemented through the Law Enforcement Coordinating Council.

2. The necessity for adequate funds to be channeled into an organization or level where local authorities can use them most effectively. Again, the Law Enforcement Coordinating Council could be a possible agency for the distribution of such funds.

3. The National Park Service, (Buffalo National River) has had a Cooperative agreement with the Newton County Sheriff's Department for about 6 years and through this avenue the help from a federal Reserve could be utilized very effectively. (One more qualified law enforcement office is definitely needed.)

Respectfully submitted,

RAY WATKINS,
Newton County Sheriff.

SHERIFF'S DEPARTMENT,
COUNTY OF HUMBOLDT,
Eureka, Calif., September 27, 1982.

Hon. S. I. HAYAKAWA,
c/o Mr. Stanley Diamond,
1390 Market Street, No. 820,
San Francisco, Calif.

DEAR MR. HAYAKAWA: I am taking this opportunity to write to you regarding your hearing by the Senate Agriculture Committee's Subcommittee on Forestry, Water Resources and Environment, to be held in Washington, D.C. on September 30, 1982.

The cultivation of marijuana on both public and private lands in this County has become a very serious problem. This department has received numerous complaints from hunters, fishermen and others who have been threatened and intimidated at gunpoint on lands administered by both the U.S. Forest Service and the Bureau of Land Management. We have also received complaints from both of those agencies' employees who have been threatened by marijuana growers while they were performing their duties as Federal employees. The same type of threats and intimidation have been experienced by legal occupants and land owners of privately-owned lands.

The whole marijuana cultivation problem has a significant impact on and is a drain on this department's resources for providing effective law enforcement throughout the County. In California the cultivation and possession of marijuana

for sale is a felony. To my knowledge there is no Federal statute making it a felony to cultivate marijuana and possess it for sale on public lands. This hinders the special agents of both the Forest Service and Bureau of Land Management from effectively being empowered to eradicate marijuana on lands administered by their agencies. If it were made a Federal offense, the Federal prosecutors and courts could be brought into play to help alleviate the local judiciary system and, being also a State offense, a much broader attack could be made on this ever-growing problem.

The cultivation of marijuana is not just a local problem, as time after time we have arrested and prosecuted growers on both public and private lands who are not residents of this County, but come here during the growing season from various parts of the country.

I do not think that decriminalization or legalization of marijuana is a viable solution to the problem—any more than the legalization of alcohol reduced alcohol-related crime. Undoubtedly you have heard many people say that the legalization and taxation of marijuana would eliminate the problem, but by doing this, all that would be created would be the problem that we now have with bootleg alcohol which can be undersold because a legitimate distiller has to pay taxes on his product.

Let me assure you that the cultivation of marijuana on public and private lands is not a victimless crime. Since it has become a problem in this County we have had homicides, shootings, kidnappings and torture, arson, extortion, and injuries suffered by residents and nonresidents.

One of the basic things needed, besides eradication, is public awareness, perhaps in the form of a massive campaign to bring to the public's attention the seriously harmful effects of marijuana use which have recently been discovered. By drying up the market for marijuana the profit in selling it is eliminated. This may be somewhat idealistic, but the public has reacted to a variety of awareness campaigns that have been conducted recently. I feel that it would at least be worth a try.

I would like to take this opportunity to thank you for allowing me the opportunity to express my views and concerns on this extremely serious problem.

Sincerely,

GENE COX, *Sheriff.*

COUNTY OF DEL NORTE,
Crescent City, Calif., September 20, 1982.

S. I. HAYAKAWA,
Senate Office Building,
Washington, D.C.
Attn.: Mr. L. Diamond.

MR. DIAMOND: I am submitting this letter in response to our conversation of September 17, 1982.

During the past 60 days, the Del Norte Sheriff's Department has confiscated 1,388 marijuana plants, ranging from 4 to 9 feet tall. Each plant would have a street value of $1,000, totaling $1,388,000. Out of this, there have been arrests or warrants associated with 12 people.

All of these plants were taken from United States Forest Service lands. In the past years, the percentage would be 95 percent from forest service land, the remaining 5 percent from private lands.

The growing of marijuana has become big business. Law enforcement, with its limited resources, are losing the battle.

This year has not been as successful as last year where we confiscated 1,127 plants but arrested 24 individuals and applied warrants on 19. We also obtained 160 pounds of processed marijuana. This has developed through the loss of three deputy's and budget reductions.

I hope this information will benefit your presentation. If I can be any further assistance, please advise.

Respectfully,

G. THOMAS HOPPER,
Sheriff-Coroner.

McKINLEYVILLE, CALIF., *September 25, 1982.*

Hon. S. I. HAYAKAWA,
Washington, D.C.

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE: Thank you for giving me the opportunity to testify on the marijuana problem in Humboldt County. I am Anna Sparks, Commissioner, Humboldt Bay Harbor, Recreation and conservation district, and Supervisor-elect, District 5 in Humboldt County.

I would like to enumerate on several of the major problems concerning the marijuana industry in Humboldt County. The first issue I will address involves the rights, both personal and property, that are being threatened and violated due to the cultivation of marijuana. Numerous incidents of these rights violations are reported yearly to our sheriff's department during the marijuana growing and harvest season. Some of the reports are from cattle ranchers whose families lives have been threatened and their land and property destroyed by marijuana cultivators. Many of the cultivators have grown their crops on the rancher's personal land and have ordered the rancher at gunpoint to leave that portion of his property alone. Numerous anonymous letters and phone calls are received daily by the sheriff's department. Their anonymity the result of fear of retaliation. Public property rights are also violated. Hikers, campers, hunters and sports fishermen are all endangered when exercising their rights to the woods, mountains, and streams during growing and harvest seasons. The brutal deaths that occur in the marijuana cultivation areas are often not discovered until after harvest, and sometimes years later. These murderers are seldom brought to justice, due to inadequate investigation funds, fear for investigators lives, and a lack of prosecutional evidence, sometimes due to intimidation of witnesses. Private businesses, such as the timber industry, Pacific Gas & Electric Company, surveyors and county agencies have had their rights to conduct their affairs violated, in that their employees are in danger when coming in contact with the territory of growers. Many of these employees have been fired at, have received damage to their vehicles, and have been personally threatened at gunpoint to abandon the area immediately.

The result of these numerous rights violations has caused many articles to appear in publications such as the San Francisco Chronicle, Sacramento Bee, San Jose Mercury, to even as far east as the Rocky Mountain News in Denver, Colorado, and the Chicago Tribune. I am enclosing an article from Family Weekly, September 26, 1982, edition for your edification. I would like this article read into the record as it gives an even broader picture of the marijuana problem. These articles warn of the dangers inherent in marijuana cultivation areas, and have intimidated potential tourists from visting the area, and thus affecting the economy.

Another repercussion of the cultivation of marijuana concerns the abuse of land. Large units of timber, brush and grasslands have been cleared for growing purposes. They are in violation of many of the land use laws that govern and protect us. Growers on hillsides are causing erosion and stream contamination and the removal of trees and underbrush are endangering the wildlife habitat.

The enormous amount of marijuana in Humboldt County has has a decidedly adverse effect on our school children. Teachers report instances of children from the Fourth Grade through High School under the influence of marijuana. There have also been reports from parents that the new heroes of the age are the outlaw marijuana growers. The illegality of marijuana and the profit associated with it at these age levels causes an appeal. Young marijuana sellers apply peer pressure to their schoolmates in order to expand their market, which in turn increases the use and sales of marijuana among our youth at an exponential rate. Its use directly and negatively affects their educational and physical abilities to perform.

In almost every arrest of marijuana growers the sheriff's department has found evidence of welfare aid, ranging from food stamps and welfare checks to medical and general relief. In this method the system has been used simultaneously as a legal cover and means of support of marijuana growers, thus robbing the truly indigent.

The aforementioned being some of the problems related to the marijuana industry in Humboldt County, I wish to now direct your attention to other costs that are directly involved. These costs are paid by county residents, and draw heavily from funds that could be spent to eliminate crime in other areas. Tremendous expenditures are involved in the investigation of and prosecution of marijuana growers, yet despite the number of arrests obtained it is estimated that fewer than 1 percent of the cultivators are brought before the judicial system. It seems apparent that a problem of this magnitude is impossible to eradicate on the limited amount of economic resources allocated to the sheriff's budget. With financial assistance from the federal government we would have a better opportunity to continue the struggle to-

wards eradicating the cultivation of marijuana. Personally, I think that either stronger punitive actions must be legislated and enforced, or marijuana should be legalized, controlled and taxed.

Superior Court Judge Buffington stated in a recent interview that judges can "only work within the framework of laws set down by the legislature," and suggested that concerned Californians should encourage legislators to change state laws to give more judicial clout to the court systems. The potential problem I see with prison internment for the cultivation of marijuana involves the possibility of criminals convicted of violent crimes being released from the already overcrowded prisons to make room for the convicted cultivators.

Another alternative to enforcing the law such as spraying of defoliant on marijuana crops has rather unique ramifications also. Some of these include alleged health hazards, private property rights, alleged degradation of natural resources such as fish and wildlife habitat, and costly litigation.

Marihuana growers advocate the decriminalization but not the legalization of marijuana because decriminalization will maintain the economic market while simultaneously eliminating the punishment for growing an illegal substance. Legalizing marijuana, on the other hand, would cause an economic recession in the marijuana industry by reducing it to an aggregate crop subject to taxation and land-use agricultural laws. Legalization would put marijuana growing under the control of state and federal government and therefore take the profit out of illicit marijuana growth and traffic. The subsequent control would provide further revenues for county, state and federal governments, and would potentially cut back on the increasing crime rate, while also restoring personal and property rights to those now currently violated.

In conclusion, I fervently believe that the answer lies in the legalization of marijuana which should be controlled in the same manner as cigarettes and alcohol. I expect there to be strong opposition to this statement by marijuana growers, some churches and other economically interested parties. I see no other way to rid my county of the rising crime rate and the violation of personal and property rights. I see a distinct correlation between the legalization of marijuana and the days of prohibition. The same fight and the same types of players will be involved. The underworld, the temperance groups, the the cultivators will all be fighting the legalization. There are billions of illegal dollars involved, so bribes, threats and certainly some violence will come into play when we try to legalize marijuana.

The present system of eradication has made little impact. The number of growers are increasing and the traffic through Northern California is spreading to other states.

I believe there has to be stronger action taken to eradicate this problem. I think that money alone is not the answer but we have to have an answer soon, because the violence in Northern California is escalating daily.

Respectfully submitted,

ANNA SPARKS,
Commissioner, Supervisor-elect

[Reprint from Family Weekly, Sept. 26, 1982]

PARADISE LOST: MARIJUANA IN THE FORESTS

WITH SQUABBLES BETWEEN GROWERS AND TOURISTS, GANG WARS AND EVEN MURDERS, A PICNIC IN THE WOODS IS MORE THAN POTLUCK

(By Linda Marsa)

Last spring, a nature hike scheduled by a local garden club through a rugged but scenic section of the Trinity and Shasta National Forest just west of Redding was abruptly canceled. The day before, a resident has accidentally stumbled upon a field of more than 400 marijuana plants smack in the middle of the wilderness. What made the area so unsafe was that all of the trails surrounding the plantation were booby-trapped with trip wires connected to hand grenades.

The idea of a group of middle-aged matrons, clad in bermuda shorts and sun hats, blithely tripping through a mine field in search of wildflowers, may sound like a skit for Saturday Night Live. William Derr, special agent for the Pacific Southwest region of the U.S. Forest Service, only wishes it were. He finds nothing comical in the fact that incidents like this are happening more frequently and that, during the past four years, the 155 national forests in the U.S. have become a veritable mecca for marijuana moonshiners.

The Forest Service estimates that more than 25 percent of the $8 billion worth of marijuana havested in the United States last year came from the national forests. Upward of $1 billion was grown on public land in California—the nation's top pot producer—where one well-manicured eight to 10 foot plant of the superpotent sinsemilla strain of the illegal herb can fetch $2,000 to $3,000. Hawaii, Oregon, Oklahoma, Kentucky and Tennessee trail California closely, with annual yields in excess of $200 million. And with the recession fueling this underground economy, the crop is expected to be even bigger this year.

What makes the forests so popular with pot growers? It's easy to escape detection in remote, dense areas that are difficult to patrol, explains Terry Pfau, an investigator with the Monterey County, California Sheriff's Department. "If they hear you, all they have to do is step back in the bush."

What's more, prosecution becomes virtually impossible because the growers don't own the land. Pfau cites a raid last fall in the Los Padres National Forest, about 150 miles south of San Francisco, as a case in point. "There were about 13,000 plants in one canyon, easily worth over a million dollars. A corporation in Miami had put up $10,000 for security, water, seeds and fertilizer and hired people to work the land at $200 a day. There was not one person we could arrest."

The upshot of all of this illegal activity: Some parts of the national forests are downright dangerous. In 1981 the Forest Service received 800 reports of confrontations between growers and visitors, while Forest Service employees and their families have been the target of veiled threats "if they don't mind their own business."

In July, for instance, several recreationists hang gliding off a ridge in the Stanislaus National Forest suddenly found thenselves looking down the barrel of a shotgun. The suspicious grower had mistakenly assumed that they were spying on his crop. So far, no visitors have been harmed but, as Derr sourly says, given the element this outlaw industry attracts, "it's just a matter of time."

With medium-size farms of 50 to 100 plants generating up to $50,000 in tax-free dollars each year, these latter-day bootleggers go to great lengths to protect their lucrative crop, though more from poachers than police. Elaborate warning devices that surround the fields range from such makeshift radar systems as reflecting mirrors, trip wires triggering crossbows, Vietnam-style punji pits lined with wooden spears and guard dogs and peacocks that shriek at the sound of an intruder, to state-of-the-art electronic surveillance equipment.

Given the potential payoffs, it's not surprising that paranoia reaches a feverish level during the harvest season in September and October, when the most money is at stake, and armed growers guard their crops round-the-clock. Already, tensions between pot farmers and thieves have erupted into violence. Bike groups have moved in, offering "protection," and homicides in the national forests have increased substantially according to John Belluardo, public information officer for the Pacific Southwest region of the Forest Service. "We found people shot execution-style, with a bullet through the head. This was no lover's quarrel."

As one normally peaceful grower has grimly admitted. "Everyone has guns. After all, you can't call the sheriff if someone steals pot from you. You have to either shoot it out, go after them, or kiss it off." Ironically, the overwhelming majority of the nation's approximately 100,000 commercial growers who, for the most part, are otherwise law-abiding citizens; are also afraid. Contrary to stereotypes, many are blue-collar workers, businessmen down on their luck, financially squeezed farmers, or even senior citizens supplementing their pensions, as well as the usual assortment of leftovers from the Haight-Ashbury era. But Derr points out, "The difficulty is that you don't know where that dangerous minority is lodged."

This unlikely turn of events has thrust the Forest Service, traditionally charged with land management, "into becoming more heavily involved in activities," says Belluardo. Aside from the obvious dangers to the public, what's just as alarming is that the presence of these plantations not only hampers the normal duties of the rangers but also has an adverse impact on the environment.

"The improvements to support this activity are tremendous," explains David R. Harmer, district ranger for the Monterey District of the Los Padres National Forest. Growers install outdoor showers, kitchen facilities and drip irrigation systems. And, they use fertilizers and pesticides that could contaminate the water supply or kill wildlife.

Last year "we found cannisters of rodenticides for small animals," Harmer reports. "In the entire area, there wasn't a sound—no birds, insects or animals. They have put small villages in places where we don't even allow chain saws," he adds. "They're destroying the wilderness."

Moreover, officials blame cultivators for accidentally starting more than a dozen serious wildland fires in the past two years with dollar losses in the millions. In

1980, for example, one fire that swept up the Monterey coast cost over $2 million just to extinguish. The price tag on the damage was inestimable. As Derr says, with no small measure of levity, "They're not exactly your good campers."

Understandably, timber crews that either replant or thin trees, won't venture into hazardous zones. The same holds true for biologists and fishing experts checking on wildlife. Right now, Forest Service employees work around the pot plantations by maintaining safer regions. But down the road, this practice will, as Belluardo puts it, "render the service ineffective."

The solution to this thorny problem stymies law enforcement officers. Police raids in California's 18 national forests last year netted $250 million worth of weed, but the Drug Enforcement Administration (D.E.A.) admits it's only getting 5 to 10 percent of the crop. Small wonder Art Sohcot, an attorney in Mill Valley who represents several growers, characterizes the eradication program as "an inane attempt to do something that's impossible. The amount of money and effort involved doesn't justify the returns."

The facts seem to support Sohcot's contentions. The trend among growers is toward planting several small patches. The chances are that only one or two will be discovered and growers will just write the loss off to the cost of doing business. As one D.E.A. agent says in frustration, "We're outpowered and outnumbered. If you arrest one, it seems three more pop up."

Even those convicted of growing marijuana receive "little more than a slap on the wrist," says Bud Cook, sheriff of Monterey County. "To give someone a $750 fine and 100 hours of community work is not really a deterrent."

What's more, in places where the illegal cash crop is economically entrenched, giving growers political and financial clout, local officials tend to take the ostrich approach, well aware that any other tactic is futile. In Mendecino county, for instance, where pot rivals timber as the major industry, the board of supervisors adopted a resolution to crack down on cultivation. But, as Fran McDermott, California coordinator for the National Organization for the Reform of Marijuana Laws (N.O.R.M.L.) questions, "What are they going to do—bomb the entire county?"

Public sympathy, particularly among the nation's 25.5 million pot smokers, seems to be on the side of the growers, who are viewed as folk heroes much akin to the rumrunners during Prohibition. In reality, as Sohcot points out, their lives really aren't quite so romantic. Raising top-notch sinsemilla, which has a high concentration of tetrahydrocannabinol (THC), marijuana's psychoactive ingredient, is a laborious task.

Commercial cultivators put in long hours seven days a week. Farming in the national forests demands even more effort because growers must backpack all equipment to remote regions and camp in their fields from March until harvest time. There's no doubt big money is changing hands, and Porsches and exotic four-wheelers aren't uncommon in the marijuana heartland. But McDermott says relatively few growers make megabucks.

Sohcot sees law enforcement's "incredibly inflated" figures as an excuse to beef up their budgets. "I had one case where the police confiscated 100 plants and said it was worth half a million. They called my client one of the biggest growers in California," he says. "His income for three years actually amounted to $20,000."

Given this, it's easier to understand why the whole thing has, for some, degenerated into a "game of cops and robbers. We just figure we'll get them next year," says Terry Pfau, who received an unexpected gift from the Carmel Valley Growers association last fall; a T-shirt bearing the logo, "When the going gets tough, the tough get growing."

The Department of Justice, however, finding little humor in the situation, has instituted a policy of seizing the property of those involved in cultivation. Two parcels of land in Southern California have already been confiscated, according to Joseph P. Russoniello, U.S. attorney for the northern district of California. "This should send a pretty clear signal that we mean business."

Others think this tactic will have just the opposite effect, giving growers a moral justification for using public lands. Under this provision, "Theoretically, if Joe Blow has five marijuana plants, they will seize his entire property," Sohcot explains. "So, if he decides to raise his crop on Federal land in order to protect his property, can you really blame him?"

Indeed, the incredible upsurge in this illicit enterprise could stem from Government policy. "Up until 1978," McDermott points out, "there was virtually no domestic cultivation. The Nixon Administration pressured Mexico to spray their fields with paraquat, a herbicide that causes lung damage. The panic created by that program was the immediate impetus for starting a new cultivation industry." A more

recent D.E.A. crackdown on drug traffic from Colombia only boosted sales of home-grown grass.

Moreover, a program launched this year to spray paraquat on fields in Florida met with opposition. A suit filed by N.O.R.M.L. halted it temporarily. Chevron, which manufactures the weed killer, joined in the pro-legalization group as plaintiffs. As Earl Stripling, a Chevron vice president says, "Terrifying people in order to change their social behavior is not a registered use of the herbicide."

With U.S. authorities admittedly stalemated in their eradication efforts, McDermott finds legalization the obvious answer. If marijuana was no longer contraband, she reasons, prices would drop, the black market which attracts criminal elements would disappear and farming in the national forests would no longer be necessary.

The prospects of this happening in the near future, though, seems dim. So, for now, the once pristine wilderness is no longer a sanctuary—for man or beast. These days, Derr cautions, "the likelihood of an innocent person stumbling onto a bad situation is great."

DEPARTMENT OF LAW ENFORCEMENT,
Tallahassee, Fla., October 12, 1982.

Mr. JASON PELTIER
c/o Senator S. I. Hayakawa
Washington, D.C.

DEAR MR. PELTIER: Pursuant to your request, enclosed is a review of the Florida Department of Law Enforcement's experience in the use of the herbicide paraquat as an effective method of eradication on domestic marijuana.

I hope this information is helpful to Senator Hayakawa and the Subcommittee, to contact me.

Sincerely,

ROBERT L. EDWARDS, *Director,*
Division of Local Law Enforcement Assistance.
ROBERT CUMMINGS, *Bureau Chief,*
Investigative Support Services.

Enclosure.

Since July 1981, the Florida Department of Law Enforcement's (FDLE) Division of Local Law Enforcement Assistance has had an ongoing domestic marijuana program. The program provides training and technical assistance in the areas of aerial surveillance, preparation of legal documentation, eradication, and expert testimony to local law enforcement agencies. The proliferation of marijuana in Florida has created a significant demand upon law enforcement agencies' resources especially in the area of eradication. Although manual eradication had been the traditional method of destruction within the United States, the increase in the amount of marijuana cultivation in Florida stimulated the need for a more efficient manner of destruction.

The Florida Department of Law Enforcement has conducted extensive research into the application of a herbicide as one of the alternative methods of eradication. The recommendation of paraquat as the chemical choice for herbicidal eradication in Florida is based on a number of developments which include:

The 1975 agreement between Mexico and the United States led to the successful use of paraquat in a program to eradicate Mexican grown marijuana.

The successful use of paraquat in Mexico sparked a major study by the Mitre Corporation which developed four critical environmental properties which would be used to screen herbicides marketed in the U.S. According to the consummated criteria, an acceptable herbicide must be non-flammable, non-volatile, biologically inactive from zero-thirty days after soil contact and non-leachable.

Mitre concluded that of the 140 herbicides marketed in the United States, paraquat was the only current pesticide that met these important environmental criteria.

The acceptable use of paraquat in the environment of Florida is not new. When used according to label instructions, it has been a successful herbicide agriculturally for at least the last ten years.

These developments along with data made available by the United Nations, the Food and Drug Administration, the Mitre Corporation, the 96th Congress, the Environmental Protection Agency, the University of Mississippi, the Department of Agriculture, the Drug Enforcement Administration, and numerous other research sources cumulated into the finding of this Department that the herbicide paraquat

when used according to label instructions provided a safe and effective means of illicit crop control.

Because not all marijuana fields would be targeted for herbicidal eradication, FDLE developed a checklist to determine the suitability of a particular marijuana crop for herbicidal spraying. (See Attachment.)

In August of this year, the Florida Department of Law Enforcement and the Walton County Sheriff's Office conducted an extensive investigation involving a large marijuana field in Red Bay, Florida. Upon the conclusion of this investigation, the decision to spray paraquat was made only after the site had been carefully scrutinized to determine the environmental impact and only after the manual method of eradication had been ruled inefficient due to the size and remote location of the field.

The application of the paraquat commenced on August 28, 1982 at 10:07 a.m. (CST) and took approximately two hours to complete. Plant desiccation was present within 30 hours allowing law enforcement officers to burn the marijuana and complete the destruction process within 48 hours.

The one quart of paraquat used in this remote field acted as a desiccant. The application was carefully formulated and stringent controls were followed to insure no adverse environmental impact and to prevent the possibility of sprayed marijuana reaching the consumer market. The spraying operation was completed in minimal time and at a minimal cost to the State of Florida.

Therefore it is the conclusion of our agency that the herbicide paraquat is a viable and cost effective alternative to manual eradication when suitable site characteristics are present. The Department would consider future use of the herbicide on a selective basis when such suitability is determined.

HERBICIDAL SPRAYING CHECKLIST

The following items shall be completed prior to Herbicidal Spraying of Domestic Marijuana:

1. Location of area to be sprayed. (a) secure the entire area for duration of operation.
2. Size of area to be sprayed.
3. Date and time to be sprayed.
4. Weather forecast for above date and location.
5. Name of Supervisor of spraying operations and applicators.
6. Name of FDLE personnel required at spraying site.
7. List of other persons what will be present during spraying.
8. Relationship of area to be sprayed to water source.
9. Livestock or wildlife present.
10. Type of vegetation in area of spraying.
11. Has safety equipment for non-spraying personnel been obtained? (a) clothing; (b) first aid supplies.
12. Has legal requirements been met? (a) search warrant; (b) destruct order.
13. Local jurisdictional law enforcement notified.

The following items to be completed on spraying site.

1. Names of all persons present.
2. Is safety equipment being used?
3. Type of livestock or wildlife present.
4. Weather: (a) temperature, (b) wind speed and direction, (c) cloudy or sunny.
5. Type of spraying equipment used.
6. Type of herbicide used and application rate.
7. Is ground water present?
8. Date and time actual spraying commenced.
9. Date and time spraying terminated.
10. Brief description of spraying operation.
11. Arrangements made for post spraying activities to include security, removal, and destruction of marijuana.

STATEMENT OF MICHAEL "MEDICINE-EAGLE" MORAN, CO-FOUNDER GRASS-ROOTS "VOLUNTEERS" AND NATIONAL COORDINATOR, AMERICAN HEMPE-PARTY COALITION

"Let me begin my remarks by stating that THC is not, I repeat, is not 'cannabis', and cannabis is not 'marihuna', nor are either hempe. Decriminalization was a deliberate Republican 'decoy' and a Democrat ploy which former US Atty. Gen Clark called "a fraud on the people" and any lament about eventual legalization without

first addressing the United Nations Single Convention Treaty is naught but idle-dialogue intended to foment suspicion and distrust among the general public.

"As a semanticist you should be pleased to know that marijuana is really a U.S. Government problem. "Mary Jane's" or "muggles" as the single pre-rolled 'stiks of tea' were called were presumed by the Pershing Forces chasing Mexico's Pancho Villa to be as dangerous to the 'effectiveeness of the troops' as the legendary Spanish Fly, thus coming under Government-surveillance and nomenclature for the first time.

"I say marijuana is a U.S. Government problem because it is the Federal Government's forty-five year (tomorrow) failed 'policy of deterrence' that is precisely the cause of today's "drug-law" reforms dilemma, and anyone who can use a library card can determine the validity of that remark in short-shrift.

"So much about this issue and this Government's unwarranted, illegal and un-Constitutional interdiction into our private-lives is ethically-questionable but few things can compare with the wholesale destruction and burning of tons and tons of the world's best 'ganja' when so many cry-out in pain for simple relief from chemotherapy, glaucoma, asthma, and nervous disorders from 20th Century stress.

"It would seem that the Federal Government unable to extract a legal-tariff on an unpatentable 'fiber plant' has resorted to the Viking-plunder methods of previous tyrannical States to suppress the emergence of a whole-culture, to deny the existence of a legitimate constituency, to deter scientific/research and refuse to admit defeat in it's ill-conceived 'drug abuse' scare campaign.

"Be mindful that we never sought special-preference before the Bar, only equal protection from it. We ever only wanted to be separated from any need for contact with the 'illicit-market' or the Enforcement-industry, and as free as both Washington and Jefferson were to grow 'hempe at the homestead' for whatever our personal needs.

"It is not without considerable intrepidation that I accepted this unique opportunity to place on 'public-record' the individual homegrowers position on this matter before your sub-Committee, Sen. Hayakawa, for as few others before this Committee, or indeed before any Congressional Committee concerning this constitutionally provocative 'issue' which I remind the Senators, remains as much unresolved today as it did a decade ago when a previous GOP-Administration chose to ignore the findings of it's hand-picked special task-force 'on-pot', I have borne the brunt of the State's wrath, having recently spent two-years in one of America's most violent prisons as a direct result of my political-activities on behalf of the estimated 4 Million 'adult' homegrowers of cannabis for personal-use, and having endured the continuing social-stigma attached to 'long-term use' and public 'advocacy' for all of my adult-life, I feel uniquely qualified to speak-out against Dutch & Nancy Reagan's unrestrained 'pogrom-of-the-pot culture' now in full-swing from Coast-to-Coast and Border-to-Border, not just in the Federal forests as your hearings would so like to emphasize, but all-the-more these days in the individual garden-greenhouses and private back-yard patches of one of America's largest 'voting-age' minorities, the Head-Constituency (tH-C).

"It should be noted here that regular-users of marijuana now outnumber those registered as Republicans even though the Press and Media continue to ignore the political-nature of this struggle for 'privacy' and 'personal-preferance' choosing only to portray domestic-growers as part of some gigantic criminal-conspiracy trying to avoid taxation, refusing to ever give an credulity to the 'traditional' and *classic* uses of 'ganja' as a 'folk-remedy' non-parallel, a 'medicinal-herb' of proven pharmacopic qualities and a tribal-communal 'sacrement' of legendary ceremonial uses, manageing all-the-while to overlook the real-nature of the US Government's attack and complaint, the homegrown-agronomics of an 'outcast-culture' that uses sin-semilla as it's "Wam-Pam" in perhaps the truest and most modern adaptation of an age-old barter-&-exchange FREE MARKET economy yet devised on these shores.

"While much of what I say here may echo portions of my testimonies before both the Republican and Democrat National Platform Committees in 1980, hopefully today's brief remarks will lead to an eventual 'Truce with the White House' and the GOP-penchant for punishing 'potheads', felonizing some 5 Million of us over the years, with some 20,000 still incarcerated here-at-home, another 5000 or more remaining in foreign jails, prisons and stockades the forgotten-hostages of the Watergate-Whitehouse's 'War on Weed', abandoned by the Ford and Carter constitutionally challengeable 'prisoners-of-weed' exchanges of the 70's.

"This is no-more a National Parks or Forestry Service problem than the current dilemma is solely a US Government problem any more. It is rather a social-disgrace, a national stigma and an international-dilemma of global significance. And the bottom-line is 'freedom'. That's the issue, first, last and always has been.

"Freedom to choose in all matters-of-Conscience of Consciousness by the consent-aged without fear of Government interdiction, need for sanctions or subsidies, taxation or controls and the 'Liberty-of-Lifestyle' such a homespun hempe-agronomy affords, that's what's really at stake in this matter, nothing less.

"Personally I am appalled that once again yet another Senate subcommittee permits itself to be enticed into helping pump the Government's 'pap about pot' and to do so so brazenly before the elections in this Administration's carefully orchestrated 'drug abuse/hard-on-crime' diversionary strategy that has recently changed the century-old 'posse commitatus' separation-of-powers, enjoined the FBI-DEA and IRS in a combined-assault creating a permanent 'deviant-caste', a new criminal-element of an otherwise 'law-abiding' minority, under a Commander-in-Chief who still claims people with beards 'are kooks'. Frankly, Senator, it's a little scary!

"As you can plainly see I am not NORML, nor YIPPIE, nor a mod-hip High Times author. I come to this fray with a personal testimonial for 'ganja' in-teas and comestibles for relief from a chronic-hereditary respiratory ailment beginning these public appearances in tiny, pastoral, conservative Vermont in 1966 where we turned the first tide of 'criminalization for using grass' around, as a Young Republican for seven years, a Jaycee for five, a writer with 18 filmscripts for NASA's first Man-in-Space program 'Project Mercury' and a veteran of numerous disciplines and techniques for 'altering consciousness'.

"If we are to admit that 20th Century 'stress-syndrome' is a reality, that it often appears to lead to poly-drug use with a high tendency for 'abuse' even by adults, then let us address the real culprits in this sad-scenario. Valiums, aspirin, alcohol, caffiene, nicotine and the addictive substances sugar, salt, gum, candy and soda pop.

"And lest we forget what keeps all this stew-mixing, let's not ignore the Nixon-Anslinger amended Single Convention Treaty which claims 'cannabis has no known acceptable medical-uses and has a high susceptibility for abuse' and therefore is a Schedule 1 Drug, along with LSD and Heroin to name a couple in this category that since 1973 have been used in research funded by the US Government while legitimate inquiry into cannabis research has been discouraged at every level.

"'What is it that Government so fears? How is it that the legal-profession continues to protect the illicit-market', viz-a-viz in Kentucky this year attempting to legislate 24 plants as 'private possession' while 25 was felony 'commercial' cultivation? Or in Alaska where the GOP tried to ramrod 'one plant' or was it 'three' as being 'private' possession? Whose kidding who Senator?

"Until this Government recognizes the 'Rights of Privacy' and 'personal preference' as inclusive of those mentioned in the Declaration of Independence, the Bill of Rights and the Constitution of the United States, exonerating the private-user and legitimatizing 'home-cultivation' with all the attendant a priori rights and privileges of civilized beings before the passage of the un-Constitutional 1937 US Marihuana Import Tax Act (see Leary vs, Texas, 1969 US Sup Ct) there will remain an inflated 'illicit-market' influence that will continue to draw out both the best and the worst entrepreneur-types, as is the American wont the world over these days, fueling the subterranean economy's impact on the nation's financial recovery, and public lands will remain attractive to 'commercial' growers.

"Don't forget Senators:

"*Government* has been unable to contain the 'word-of-mouth' recommendations of more than three generations as to the benefits of using 'ganja' intelligently nor with threats of jail, poisoning thru paraquat, or various 'hyped' biased medical reports have they been able to deter upwards of 20 millions in the US, some 400 millions globally, 1 out of every 10 'human beings' on this planet from spreading the good-herb, the good-seed, the good-Head that comes with regular use of the Ganja.

"How pray tell will you enforce 'legalization'?

"How many of us do you really expect to convince of your 'quality controls' after what we've seen Government do with alcohol, tobacco, food colorings, and the like? And who, once they can grow their own would trust the neighborhood State store? Surely, you folks are kidding when you think you can make us the new 'moonshiners' and send the Revenoors after everything many of us have struggled a decade to obtain while under the Government's guns all the while, heh?

"In the event some of your number have missed the facts about this 'menace' to American youth let this brief list of Government findings and partial list of texts provide a basis from which to begin your hearings next Session:

(1894) The Indian Hemp Drugs Commission Report (Britain-India).

(1916–29) Panama Canal Zone Military Investigation (U.S. Army).

(1939–44) La Guardia Commission Report (N.Y.).

(1968) The Baroness Wooten Report (Britain).

(1970) The Le Dain Commission Report (Canada).

(1972) The Jamaican Study (NIMH–USA & Jamaica).

(1972) The Shafer Report (U.S.)—the Hamid Report (Trinidad-NIDA 1979).

(Feb 82) The National Academy of Sciences Study (most recent thorough long use) as well as the Greek, Pakistani and Costa Rican studies of recent years.

(Apr 82) Maine Proposal for Licensing, Control and Taxation of Cannabis.

"Advised that not one substantiated proof of 'any physiological or psychological harm' from intelligent-use of ganja over long periods, including several decades, has ever been documented, and I for one will challenge any statistical analysis to the contrary.

"For reading: John Kaplan's 'The New Prohibition' (1970); Dr. Greenspoon's LSD and Marijuana 'reappraised' (reprint 1981); Larry Slocum's 'Reefer Madness' (79); deRobb's 'Drugs and the Mind' and 'Master Game' etc., etc.

"I did not come here to add to the problem you folks face as you open this 'can-of-worms' on Capitol Hill. I would be remiss however if I did not tell you how people in my constituency feel about this issue. We're damn tired of the Democrats' delays. Senator Kennedy could have brought the original Javits-Koch-Hughes bill to at least a Committee-hearing if not to the floor for the debate had the Carter White House not got it's snoot caught in Snortergate. Reigle and Leahy could have honored statements they made during their 1976 Campaigns when Grassroots 'Volunteers' beat the bushes to get them elected. While both parties troll for votes in various Gay Communities around the country, the Burger Court finds forty-years for selling 9 ozs to an undercover-informant not to be cruel, harsh or unjust punishment for a black man married to a white woman in a western Virginia town before an all-white jury, and Gore Vidal refuses to challenge Jerry Brown's 'flip-flops' on grass in the recent California hustings.

"What we want is simple enough.

"The G-Men out of our gardens. The T-Men out of our banks. The SWAT-Kops and their helicopters out of our skies. Our records expunged. The dogs out of the jr. High Schools and the narcs out of the neighborhoods. We want an end to this GOP's vendetta against our culture. We want a truce, and we want it now.

"In California we are still trying to convince the General Assembly to place the California Marijuana Initiative on the ballot in early 1983, and we plan to seek a Constitutional Amendment on 'privacy and freedom of choice' for 1984 when the Democrats are expected to be convening in San Francisco.

"All of which is by way of saying that you have a unique opportunity as an outgoing Senator from California, the one state where the majority of the people still agree that the Government is wrong in prosecuting 'potheads', to bring to this Administration's attention that we are willing to work out a 'face saving' scenario to end this 45-year 'war on privacy', and that we'll be at the NORML Conference at the Holiday Inn here in DC November 12–13. It would behoove you folks to send some of your Staff people down to hear where we're at now in our struggle to secure 'the rights of all free-people everywhere to experiment in altered states and live in separate realities'. Mindful that 'the abuse of any drug is its own punishment', we implore some of your number to seek a specific motion before the Senate calling upon the US Mission at the UN to seek a 'review of the Single Convention treaty as it specifically applies to home cultivation (by adults) for personal use,' in this next 83–84 Session.

"I thank you for your kind consideration and attention. Any questions?"

RESOLUTION NO. 82–506 BY THE BOARD OF SUPERVISORS, MADERA COUNTY, CALIF.

Whereas, the growing of marijuana in rural counties has increased due to the inability of law enforcement agencies to locate and apprehend the people responsible for growing the marijuana, and

Whereas, this situation has resulted in a large criminal element engaging in the commercial cultivation of marijuana in these counties, and

Whereas, it is important to stop the use and distribution of marijuana and to use any legal means to destroy this onerous crop and successfully prosecute the growers, now, therefore, be it hereby

Resolved by the Board of Supervisors of the County of Madera, That immediate consideration be given by the State of California and the United States of America to provide sufficient funds, personnel and material to assist the rural counties law enforcement agencies to completely destroy the illegal 1982 marijuana crop and to successfully prosecute commercial marijuana growers. Be it further

Resolved, That the courts of this State be urged to strengthen their sentencing and fining policies where the sale and commercial cultivation of marijuana, and the distribution of cocaine and other illegal narcotics is involved. Be it further

Resolved, That copies of this resolution be forwarded to the President of the United States, the Governor of the State of California, Senator Alan Cranston, Senator S. I. Hayakawa, United States Attorney General William French Smith, California Attorney General George Deukmejian, the California Judges Association and the Regional Council of Rural Counties.

The foregoing Resolution was adopted this 21st day of September, 1982, by the following vote:

Supervisor Kennedy voted: absent.
Supervisor Ginsburg voted: yes.
Supervisor Del Bianco voted: yes.
Supervisor Hill voted: yes.
Supervisor Darnell voted: yes.

ALFRED GINSBURG,
Chairman pro-tem,
Board of Supervisors.

Attest: Wanda Bradley, Clerk, Board of Supervisors.

DEPARTMENT OF JUSTICE,
Sacramento, Calif., November 4, 1982.

Hon. S. I. HAYAKAWA,
U.S. Senate,
Washington, D.C.

DEAR SAM: Unfortunately I was unable to testify before your recent committee hearing on marijuana cultivation on public lands. As you are aware, as Attorney General in California I have taken a personal interest in this serious problem.

It is my understanding that Sheriff Jondahl of Mendocino County appeared before your committee with a local perspective on our problem. I have taken the liberty of enclosing a statement which I would like to include in your record. It outlines California's program for the past four years and includes some of our suggestions on how efforts could be made more efficient and effective.

Your interest and support in seeking solutions to this growing problem are appreciated by those of us in law enforcement.

Most cordially,

GEORGE DEUKMEJIAN.

Enclosure.

CALIFORNIA MARIJUANA ERADICATION PROGRAM

Marijuana is one of the most frequently abused drugs in the United States. The cultivation and smuggling of marijuana are illicit industries which have grown to an estimated $20 billion annual business in the United States. This untaxed and unregulated flow of cash forms a financial base for numerous other criminal enterprises. Violent crime is also often associated with such huge sums of cash and illicit activities. The takeover of legitimate businesses and the corruption of public officials are historically two uses of underworld cash.

Traditionally, Mexico and Colombia have been the sources of marijuana, however, in recent years domestic commercial marijuana cultivation has supplied an increasing amount of the market demand. New growing techniques used by the domestic growers have resulted in a seedless strain of marijuana known as "sinsemilla". The new technique of forced growth by preventing the pollination of the female plant produces a very high THC content exceeding that of hashish and approaching that of hashish oil. A single mature plant which has been properly cultivated to a height of 14 to 16 feet will yield one to two pounds of saleable material. Because of its great potency and availability, sinsemilla/marijuana has become highly sought after and commands a premium price of almost $2,000 a pound.

The Bureau of Narcotic Enforcement first became aware of this new domestic marijuana industry in late 1977, and by 1979 has obtained a federal grant to help the Sheriffs of Mendocino, Humboldt, Del Norte and Lake Counties to address their problem. The grant was to fund overtime and travel expenses for sheriffs' officers and to explore the use of aerial surveillance to spot illegal cultivation sites. BNE, in conjunction with its federal counterpart the U.S. Drug Enforcement Administration, developed training programs to provide the local officials with the necessary exper-

tise, as sheriffs' departments would bear the majority of the burden for crop identification and eradication.

During 1979, law enforcement agencies participating in the program identified some 868 "gardens" where marijuana was being commercial cultivated. Of these, it was possible to physically inspect and destroy only 254 due to limits of available resources, especially manpower. Nonetheless, these 254 fields yielded yearly 30,000 marijuana plants with a total weight in excess of 52,000 pounds—26 tons.

In 1980, our Bureau of Narcotic Enforcement met with sheriffs to plan for an expanded operation. Two 80-hour sinsemilla observer schools were arranged to meet increasing local law enforcement needs. BNE purchased specialized equipment such as 4-wheel drive trucks and chain saws to support local efforts. Additionally, DEA agents were committed to seize, under federal law, assets acquired from illegal cultivation revenue. Both DEA and BNE committed aircraft to the operation. The use of light aircraft to spot crops had proven to be the most effective technique. The Western States Information Network (WSIN), a multistate narcotic intelligence organization, and BNE worked to develop more sophisticated data collection procedures to provide law enforcement with a comprehensive picture of this rapidly expanding problem.

By the end of the 1980 crop year, 43 counties had reported seizures of a total 156,000 plants, almost 105 tons, and the arrest of over 1,000 suspects. Inquiries from other states became common as law enforcement pressure in California moved at least some of the problem to other parts of the nation. BNE, in conjunction with WSIN and the State Drug Enforcement Alliance (a group of 26 state-level narcotic enforcement agencies from throughout the nation) began to disseminate training materials and intelligence information to areas where the problem was migrating. Media interest became intense as ballot initiative efforts (to reform the marijuana laws) began and some public officials (many of whom were uninformed) speculated on the size and financial importance of the marijuana crop to local economies.

Early in 1981, BNE once again began coordination with DEA and sheriffs' departments for a greatly expanded effort. Based on preliminary intelligence information, seizures of two to threefold over 1980 were expected. Two more 2-week sinsemilla observers schools were scheduled to train additional officers. Evidence that domestic marijuana cultivation had quickly become a national problem was emphasized when the state narcotic agencies of Texas, Arizona, Mississippi and Louisiana requested places for their agents in the sinsemilla observers school. In May, BNE was asked to conduct a briefing in Nashville, Tennessee for chiefs of major U.S. police departments concerning domestic marijuana cultivation. By June, at the request of DEA, a BNE agent was loaned to Florida to help state and federal authorities assess Florida's problem and develop a training program. To ensure a coordinated effort between law enforcement officials and district attorneys offices, BNE and the Attorney General's Special Prosecutions Unit conducted a training seminar for prosecuting attorneys from 20 counties concerning the specialized problems involved with marijuana eradication prosecutions.

Later in 1981, in cooperation with WSIN, training seminars were conducted for Idaho, Washington and Canadian law enforcement agencies. Our BNE continued to conduct numerous public presentations concerning the problem and committed increasingly more resources to eradication efforts. Aerial support from two BNE and three DEA pilots provided the information by which a large percentage of 1981 seizures were made. Additionally, the United States Customs Service provided helicopter support which allowed a safer and more cost effective access to large crops in the more inaccessible areas of California's central coast. Predicted massive increases in seizures failed to materialize. Reports received by WSIN showed a decrease in tonnage seized of 103 to 95 tons, and the total number of plants seized dropped from 156,000 to 151,000. Decreases were particularly significant when compared to the increase of law enforcement resources committed to the program. Analysis indicates that the size of the problem in California may have peaked and that California's rapid response may have proved to be a powerful deterrent and forced growers to other states.

During this 1982 crop year the Bureau of Narcotic Enforcement has assigned 10 special agents and 2 aircraft to support the efforts of the sheriffs' departments. These agents are equipped with 4-wheel drive vehicles, chain saws and other equipment required to manually eradicate crops. One observers school and one prosecutors seminar were conducted. These schools were sponsored jointly by the Bureau of Narcotic Enforcement and the Drug Enforcement Administration.

Representatives from 37 sheriffs' departments have been trained in aerial observation and eradication techniques. BNE has additionally developed, and continues

to provide, training materials which have been provided to law enforcement agencies throughout the state.

During June, BNE sent an agent to the Federal Training Center at Glynco, Georgia to help develop a regional training course for law enforcement agencies in the southeast United States. WSIN is working with Washington State officials to develop a regional training school for local officers to train them in aerial observation and eradication techniques. BNE will work with the WSIN staff and provide instructors for that school. The Western States Information Network has become the sole collector of seizure data during the 1982 crop year and continues to support the efforts of law enforcement agencies through intelligence gathering, dissemination, and developing graphic presentations for display during trials.

What began as a California problem is now national in scope. The Drug Enforcement Administration has targeted on 25 states. Our BNE continues to closely monitor the California situation and work to identify the most effective ways to coordinate and potentiate local efforts. Two factors will weigh heavily on California's future marijuana cultivation problem. Federal agencies are now focusing their attention at destroying marijuana crops in source countries and interdicting shipments before they reach the United States. Should such efforts prove effective, smugglers could be expected to abandon traditional routes and delivery sites in the southeastern United States in favor of West Coast points which are far more difficult to monitor. A reduction of foreign shipments could also encourage demand for additional domestic cultivation.

The resources now exist to effectively combat the problem in California. Better coordination between federal, state and local agencies must occur though to ensure a more efficient operation. The Bureau of Narcotic Enforcement is now engaged in a prototype operation with the Drug Enforcement Administration, Bureau of Land Management and U.S. Forest Service, together with four sheriffs' departments, to develop less costly raiding and eradication procedures. A regional approach is being developed to use reserve deputy sheriffs for raid teams, and the actual harvesting of the crops, where possible, will be done by fire crews, minimum wage type employees, or perhaps prisoner labor. Such an approach will result in far less cost to the involved agencies, as well as a reduction in disruption of normal police services which results from the reassignment of full-time sheriffs' deputies to eradication teams. This operation will be augmented by the U.S. Customs helicopter. The U.S. Customs "Huey" will provide access to crops which would otherwise be too remote for law enforcement agencies to reach.

The Federal Government must take a strong stand on the health and social dangers presented by marijuana cultivation and use. The Drug Enforcement Administration must assume a strong leadership role in law enforcement programs and seek new methods for remote sensing for easier identification of crop sites. The commitments made by the Drug Enforcement Administration and other federal agencies should represent a long term and ongoing one and should place a heavy emphasis on coordination of local and state enforcement programs.

Public awareness programs and educational materials should be developed to better acquaint all those that are affected by this problem. Significant strides can also be made in the area of deterrents through pro-active programs by land management agencies in high potential growing areas during the Spring when the marijuana in planted. Such a deterrent program could reduce the spinoff effects that illegal cultivation have on both the environment and public safety. The cultivation of marijuana, whether on private or public lands, significantly diminishes the quality of life in those areas. As the number of illegal gardens increase in a given area, so does the potential for confrontation between growers and unsuspecting citizens. The violence associated with the trafficking in drugs, and particularly with the cultivation, smuggling and sale of marijuana, is well documented. The tremendous profits involved significantly enhance the potential for corruption.

Marijuana cultivation represents the drug law enforcement problem of the future in the United States. Federal, State and local agencies must act quickly to develop comprehensive programs to address this very serious problem.

U.S. DEPARTMENT OF THE INTERIOR,
BUREAU OF LAND MANAGEMENT,
Washington, D.C., November 12, 1982.

In re: 1750(140).

Hon. S. I. HAYAKAWA,
Committee on Agriculture, Nutrition and Forestry, U.S. Senate, Washington, D.C.

DEAR SENATOR HAYAKAWA: This is in reply to your October 14, 1982, letter which contained nine follow-up questions to the September 30, 1982, hearing on marijuana before the Committee on Agriculture, Nutrition and Forestry. The answers to your questions are as follows:

Question 1. What is the commitment of your agency, in terms of dollars and manpower invested, to deal with marijuana cultivation on BLM properties for the 1982, 1983, 1984, and 1985 fiscal years?

Answer. BLM's law enforcement program is not large enough to single out the elimination of marijuana cultivation as a separate operational program. The Bureau's main function in this matter is to identify areas of public lands where marijuana is being grown. The Bureau then relies heavily on Federal, State, and local law enforcement authorities for taking the necessary actions against the growers and the crop. Total BLM law enforcement funding has been and is anticipated to be as follows:

Appropriation structure:

Amount (millions of dollars):

1981	$1.2
1982	1.5
1983	2.0
1984	2.0
1985	unknown

Work-years:

1981	24
1982	25
1983	26
1984	26
1985	Unknown

Question 2. Are you aware of any cases of corruption within the ranks of your employees, or other Federal employees, in regard to the eradication of marijuana?

Answer. To our knowledge, there have been no cases of corruption involving BLM employees. We have no information about other Federal employees.

Question 3. What might be done to improve the coordination and communication between Federal, State, and local officials with a responsibility to deal with the marijuana cultivation problem?

Answer. The Bureau's policy is to cooperate to the fullest extent with Federal, State, and local officials in carrying out enforcement objectives.

BLM agents work closely with those local enforcement officers who seek cooperation. Where local officials have not sought our cooperation, BLM agents are expected to encourage and foster such interest. A special effort will be made by BLM agents to encourage the cooperation of those State agencies that are responsible for enforcing the drug laws and regulations. Such State agencies will be encouraged to assume responsibility for those aspects of the drug program which come within their jurisdiction.

An active program will be conducted to secure the most effective action by county departments in curtailing or eliminating the drug traffic in their areas of responsibility. We will make every possible effort to secure the most effective action by assisting counties in the instruction and training of selected personnel in handling the marijuana problem and cooperating with counties in carrying out their drug enforcement activities.

Question 4. Is there a nationwide policy or program for dealing with marijuana on BLM lands? If so, how is that communicated to your employees?

Answer. The Bureau is developing a coordinated program to deal with the marijuana problem. The program will include the elements of detection, employee awareness and law enforcement strategy. When developed, the program will be publicized through internal BLM information publications, instruction memorandums, manuals, and employee briefings.

Question 5. What action has the BLM taken in response to the specific GAO findings and recommendations of April 1982 on this problem?

Answer. Each BLM State Office has been directed to formulate a marijuana eradication program designed to meet the needs of the involved area within manpower and funding limitations. BLM's Washington, D.C. Office will serve as a focal point for State Office operations and will assist in providing technical information and investigative support.

As directed by the Washington, D.C. Office, the first phase of each State office program will be the development of an increased awareness on the part of all BLM employees as to the importance of the marijuana elimination program and the contributions that each employee can make to it.

Question 6. What level of coordination exists between BLM and the rest of the Department of the Interior law enforcement personnel?

Answer. The Bureau's policy is to cooperate fully with Department of the Interior law enforcement authorities in carrying out the Department's enforcement objectives.

An excellent level of coordination currently exists among all Department of the Interior law enforcement personnel.

Question 7. What activities have you undertaken to identify marijuana cultivation on BLM lands?

Answer. The Bureau has initiated a citizen and employee information program aimed at increasing awareness and sharpening the ability to spot marijuana cultivation. BLM law enforcement agents and local and State law enforcement agencies coordinate their efforts to locate marijuana growing areas.

We have initiated discussions with our remote sensing and aerial photography specialists at the Denver Service Center regarding the possibility of using present technology in the identification of marijuana gardens or areas where the growing of marijuana has high potential.

Training of BLM State Office special agents to provide them with technical knowledge of combustibles, explosives, photography, and the collection and presentation of evidence is important and has been scheduled for the next in-service training for BLM agents.

Question 8. Do precautions need to be taken to protect the safety of BLM employees or the public on BLM lands from the marijuana growers?

Answer. Yes, such precautions need to be taken and will be developed as part of the program discussed in the answer to question four above.

Question 9. Do you have any evidence of adverse environmental impact from the cultivation of marijuana on BLM properties?

Answer. Nearly every marijuana plantation found on public lands in the State of California has had large amounts of arsenic base poison spread throughout and/or stored at the site. Arsenic is used to eliminate rodents and other predators from marijuana plantations. It is believed that the effects of the arsenic residue extend to a much wider area due to raptors and other animals further up the food chain. Another possible hazard is that this residue may leach into the ground water and end up in downstream domestic water supplies.

The use of high nitrogen content fertilizers is also a problem which could result in high nitrate concentrations in the adjacent streams and eventually in the ground water.

Cutting of timber and vegetation occurs at nearly all marijuana gardens and plantations. This is because of the need to open soil areas to sunlight and also to make trails. This damage, though often minimal, adds to the fire hazards in these areas due to the slash that is created.

We trust that you will find this information helpful. Please do not hesitate to contact us if we can be of further assistance.

Sincerely,

ROBERT F. BURFORD, *Director.*

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